Covid-19 and the Co-evolution of Conspiratorial Urban Systems[1]

#FauciFraud and the Gates of Hell

In March, 2015, Bill Gates appeared on a stage in Vancouver, British Columbia, and delivered a TED talk on global epidemiology: "The Next Outbreak? We're Not Ready." Gates compared the danger of a global pandemic to his childhood experience of the long Cold War years of impending nuclear annihilation. Back in the 1960s the great danger involved missiles. Now it's microbes that threaten humanity, and "time is not on our side." We need to invest immediately, Gates told the audience, to translate accelerating bioscience innovations into a coordinated worldwide program to develop vaccines. Five years later in Washington, DC, Donald Trump told reporters at a White House Coronavirus Task Force briefing that Mike Pompeo, his Secretary of State, was "extremely busy" and had to get back to his job running the State Department — "or, as they like to call it," Trump grinned, "the Deep State Department." A few seconds later, the cameras caught one of the other officials standing behind Trump bow his head in a slow but unmistakeable face-palm.

These events seem to have no necessary, coherent relationship to one another. Connecting them is not a "rational" abstraction "which isolates a significant element of the world which has some unity and autonomous force," but is instead a *chaotic conception* that "combines the unrelated or divides the indivisible" (Sayer, 1982, p. 7). But of course in the nonlinear, multidimensional mirror worlds of social media and planetary informational ecosystems — where combining the unrelated and dividing the indivisible is the entire basis of the market cap of a corporation like Alphabet (which topped US $1 trillion in January, 2020) — these events are most certainly related. Still images and video segments of the face-palm of Anthony S. Fauci,
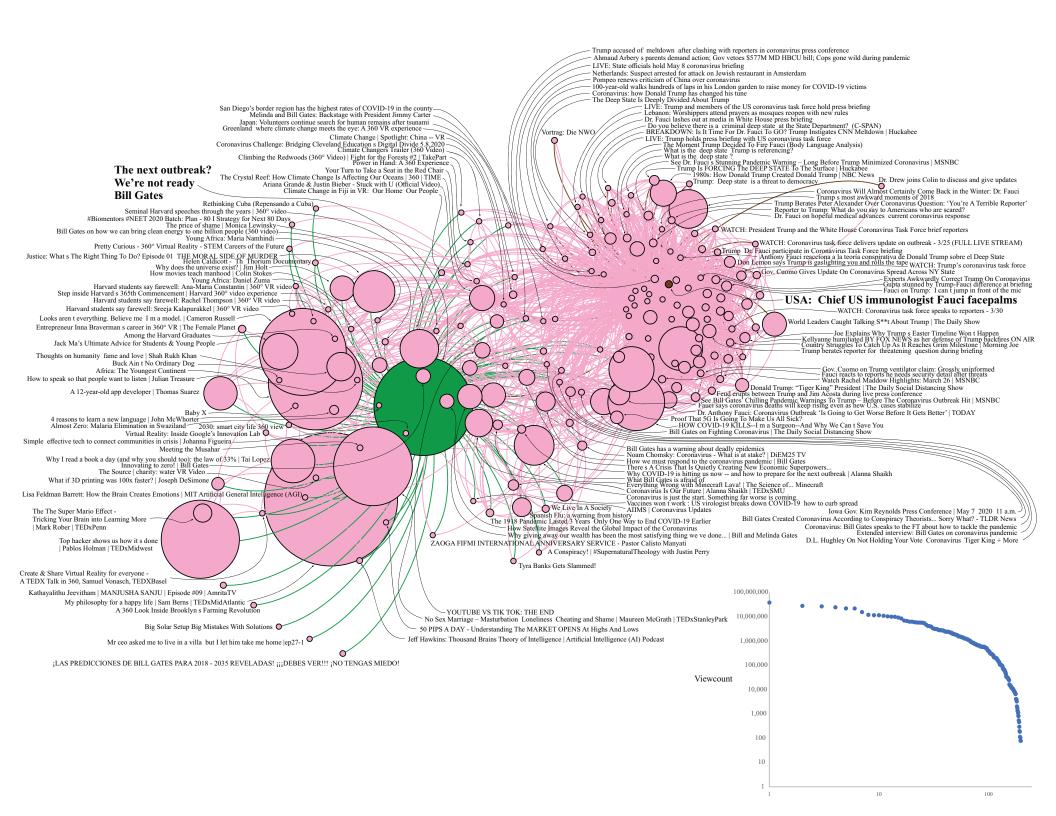
Director of the National Institute of Allergy and Infectious Diseases (NIAID), quickly spread

through alt-Right social media networks and fueled one of the many virulent conspiracy theories

that was co-evolving with SARS-CoV-2 (Severe Acute Respiratory Syndrome Coronavirus 2) /

Covid-19. Fauci quickly clarified that he had covered his face because a lozenge had

momentarily been caught in this throat, but no matter. Twitter and Facebook posts attacking

Fauci as an operative of a treasonous 'Deep State' committed to destroying President Trump

reached an audience of more than 1.5 million within less than a week, and *New York Times*

reporters identified more than 70 Twitter accounts pushing the #FauciFraud hashtag; some of the

bots spread the conspiracy as many as 795 times per day (Alba and Frenkel, 2020). One short

video segment, "USA: Chief US immunologist Fauci facepalms when Trump talks of deep

state," appeared on the YouTube channel of Ruptly (a division of RT / Russia Today) and soon

racked up 581 thousand views. The *Journal of American Greatness*, established in 2017 to

provide post-hoc pseudo-intellectual veneer for a movement that was too unhinged for 'never

Trumper' Republicans in traditional right-wing think tanks, portrayed a Fauci/Deep State plot for

an "America ruled by experts," fulfilling the dreams of "progressives ... [s]ince at least the time

of Woodrow Wilson" and Wilson's reading of Hegel; taking control of everyday life in ways that

surpassed "fascism's great original, Benito Mussolini," the doctor was said to be leading the

nation down yet another road to serfdom, to "Fauci-ism" (Curry, 2020). Meanwhile, Bill Gates'

nine-minute speech from Vancouver in 2015 acquired new life, racking up 25 million new views

in late March and early April of 2020. Anti-vaxxers, conspiracy theorists of the 'QAnon'

movement incubated on the extreme discursive frontiers of 4chan and 8chan, and 'mainstream'

right-wing voices circulated the video as evidence that Gates a) created Covid-19, as part of a

plan to b) corner the worldwide market on a vaccine so that c) elite globalists can control

populations through surveillance and eugenic culling. Soon NBC's *Meet the Press*, which now always begins with, "From NBC News in Washington, the longest-running show in television history," included a short clip of a woman in a Pennsylvania protest holding a large placard featuring a caricature of Gates wielding a syringe of poison masquerading as a Covid-19 vaccine: "Bill Gates of Hell." The media analytics firm Zignal Labs identified the Gates narrative as the most widespread of all coronavirus conspiracies, and a *Times* analysis identified more than 16,000 Facebook posts about Gates' role in the virus that had accumulated almost 900,000 likes and comments (Wakabayashi, Alba, and Tracy, 2020).

Gates and Fauci once met in person at a consultative workshop on global epidemiology at the National Institutes of Health in December, 2018, but their disembodied avatars — conspiratorially photoshopped images (Reuters, 2020) and click-by-click network paths connecting decontextualized video snippets — are now meeting far more frequently. We can trace a few of these connections by deploying the open-source tools developed by Bernhard Reider of the Digital Methods Initiative at the University of Amsterdam (see Rieder et al., 2018). Rieder's interface allows anyone with an internet browser to mine the application programming interface (API) on YouTube, the world's largest publicly-accessible video sharing platform. This approach makes it possible to map the intercorrelations between videos in the "Up Next" recommendations provided by YouTube's algorithms, which are constantly watching what millions and billions of humans are watching. The graphical results are similar to the methodology of multidimensional scaling, a multivariate statistical technique developed by the educational psychologist Warren Torgerson in the 1950s and then refined by key architects of geography's 1960s Quantitative Revolution (see Gould, 1986, pp. 201-207). The simplest, first-order network analysis of the Fauci face-palm and Gates' pandemic TED talk identify a

constellation of 195 multicollinear videos, with a total accumulated audience of more than 427 million views, 10.6 million likes, 1.42 million comments, and 481 thousand dislikes (Figure 1). For anyone who stumbles upon either the Gates talk or the Ruptly clip, the shortest path connecting the two through what YouTube's algorithm thinks is most relevant goes through two CNN segments that seem somewhat relevant — an Anderson Cooper interview of Gates via Skype from Seattle on predictions of 'peak Coronavirus cases,' and a segment of a different Fauci appearance at a Trump Coronavirus Task Force briefing on plans to phase out quarantine and social-distancing measures. Yet these links are overwhelmed by the magnitude of competing algorithmic attentional recommendations that produce a matrix of combinatoric chaotic conception connectivity — varied clips and mashups of Fauci, Trump, and/or Gates alongside duets by Ariane Grande and Justin Bieber, Jack Ma's advice to young people on how to achieve success in life, Monica Lewinsky's twenty-year retrospective on the price of sudden scandal fame, vloggers' critiques of the sandbox video game Minecraft, updates on the latest developments in 3D printing, and an animated prediction of the near future, when you use your smartphone to connect to the new, lightning-fast 5G network to watch your favorite online show on YouTube: suddenly your nose starts bleeding, your vision blurs, and you fall dead as "your head pops like an overripe melon."

Fauci conspiracies accelerated after a conservative blogger sifted through the Wikileaks hacked email trove that had figured so prominently in Trump's 2016 election, and found a message Fauci had sent to a different Secretary of State (Hillary Clinton), praising her resilience during hostile Republican Congressional hearings on the U.S. embassy attack in Benghazi, Libya. Fauci is no stranger to controversy. Three decades earlier, Larry Kramer, the charismatic insurgent founder of the Gay Men's Health Crisis and the AIDS Coalition to Unleash Power

The next outbreak?
We're not ready
Bill Gates

USA: Chief US immunologist Fauci facepalms

Vortrag: Die NWO

Trump accused of meltdown after clashing with reporters in coronavirus press conference
Ahmaud Arbery s parents demand action; Gov vetoes $577M MD HBCU bill; Cops gone wild during pandemic
LIVE: State officials hold May 8 coronavirus briefing
Netherlands: Suspect arrested for attack on Jewish restaurant in Amsterdam
Pompeo renews criticism of China over coronavirus
100-year-old walks hundreds of laps in his London garden to raise money for COVID-19 victims
Coronavirus: how Donald Trump has changed his tune
The Deep State Is Deeply Divided About Trump
LIVE: Trump and members of the US coronavirus task force hold press briefing
Lebanon: Worshippers attend prayers as mosques reopen with new rules
Dr. Fauci lashes out at media in White House press briefing
Do you believe there is a criminal deep state at the State Department? (C-SPAN)
BREAKDOWN: Is It Time For Dr. Fauci To GO? Trump Instigates CNN Meltdown | Huckabee
LIVE: Trump holds press briefing with US coronavirus task force
The Moment Trump Decided To Fire Fauci (Body Language Analysis)
What is the deep state Trump is referencing?
What is the deep state ?
See Dr. Fauci s Stunning Pandemic Warning – Long Before Trump Minimized Coronavirus | MSNBC
Trump Is FORCING The DEEP STATE To The Surface | Huckabee
1980s: How Donald Trump Created Donald Trump | NBC News
Trump: Deep state is a threat to democracy

Dr. Drew joins Colin to discuss and give updates
Coronavirus Will Almost Certainly Come Back in the Winter: Dr. Fauci
Trump s most awkward moments of 2018
Trump Berates Peter Alexander Over Coronavirus Question: 'You're A Terrible Reporter'
Reporter to Trump: What do you say to Americans who are scared?
Dr. Fauci on hopeful medical advances current coronavirus response
WATCH: President Trump and the White House Coronavirus Task Force brief reporters
WATCH: Coronavirus task force delivers update on outbreak - 3/25 (FULL LIVE STREAM)
Trump Dr. Fauci participate in Coronavirus Task Force briefing
Anthony Fauci reacciona a la teoría conspirativa de Donald Trump sobre el Deep State
Don Lemon says Trump is gaslighting you and rolls the tape
WATCH: Trump's coronavirus task force
Gov. Cuomo Gives Update On Coronavirus Spread Across NY State
Experts Awkwardly Correct Trump On Coronavirus
Gupta stunned by Trump-Fauci difference at briefing
Fauci on Trump: I can t jump in front of the mic
WATCH: Coronavirus task force speaks to reporters - 3/30
World Leaders Caught Talking S**t About Trump | The Daily Show
Joe Explains Why Trump s Easter Timeline Won t Happen
Kellyanne humiliated BY FOX NEWS as her defense of Trump backfires ON AIR
Country Struggles To Catch Up As It Reaches Grim Milestone | Morning Joe
Trump berates reporter for threatening question during briefing
Gov. Cuomo on Trump ventilator claim: Grossly uninformed
Fauci reacts to reports he needs security detail after threats
Watch Rachel Maddow Highlights: March 26 | MSNBC
Donald Trump: "Tiger King" President | The Daily Social Distancing Show
Feud erupts between Trump and Jim Acosta during live press conference
See Bill Gates' Chilling Pandemic Warnings To Trump – Before The Coronavirus Outbreak Hit | MSNBC
Fauci says coronavirus deaths will keep rising even as new U.S. cases stabilize
Dr. Anthony Fauci: Coronavirus Outbreak 'Is Going to Get Worse Before It Gets Better' | TODAY
Proof That 5G Is Going To Make Us All Sick?
HOW COVID-19 KILLS--I m a Surgeon--And Why We Can t Save You
Bill Gates on Fighting Coronavirus | The Daily Social Distancing Show

Bill Gates has a warning about deadly epidemics
Noam Chomsky: Coronavirus - What is at stake? | DiEM25 TV
How we must respond to the coronavirus pandemic | Bill Gates
There s A Crisis That Is Quietly Creating New Economic Superpowers...
Why COVID-19 is hitting us now -- and how to prepare for the next outbreak | Alanna Shaikh
What Bill Gates is afraid of
Everything Wrong with Minecraft Lava! | The Science of... Minecraft
Coronavirus Is Our Future | Alanna Shaikh | TEDxSMU
Coronavirus is just the start. Something far worse is coming.
Vaccines won t work : US virologist breaks down COVID-19
AIIMS | Coronavirus Updates
how to curb spread
Iowa Gov. Kim Reynolds Press Conference | May 7 2020 11 a.m.
Bill Gates Created Coronavirus According to Conspiracy Theorists... Sorry What? - TLDR News
Coronavirus: Bill Gates speaks to the FT about how to tackle the pandemic
Extended interview: Bill Gates on coronavirus pandemic
D.L. Hughley On Not Holding Your Vote Coronavirus Tiger King + More

San Diego's border region has the highest rates of COVID-19 in the county
Melinda and Bill Gates: Backstage with President Jimmy Carter
Japan: Volunteers continue search for human remains after tsunami
Greenland where climate change meets the eye: A 360 VR experience
Climate Change | Spotlight: China -- VR
Coronavirus Challenge: Bridging Cleveland Education s Digital Divide 5.8.2020
Climate Changers Trailer (360 Video)
Climbing the Redwoods (360° Video) | Fight for the Forests #2 | TakePart
Power in Hand: A 360 Experience
Your Turn to Take a Seat in the Red Chair
The Crystal Reef: How Climate Change Is Affecting Our Oceans | 360 | TIME
Ariana Grande & Justin Bieber - Stuck with U (Official Video)
Climate Change in Fiji in VR: Our Home Our People
Rethinking Cuba (Repensando a Cuba)
Seminal Harvard speeches through the years | 360° video
#Biomentors #NEET 2020 Batch: Plan - 80 I Strategy for Next 80 Days
The price of shame | Monica Lewinsky
Bill Gates on how we can bring clean energy to one billion people (360 video)
Young Africa: Maria Namhindi
Pretty Curious - 360° Virtual Reality - STEM Careers of the Future
Justice: What s The Right Thing To Do? Episode 01 THE MORAL SIDE OF MURDER
Helen Caldicott – Th Thorium Documentary
Why does the universe exist? | Jim Holt
How movies teach manhood | Colin Stokes
Young Africa: Daniel Zuma
Harvard students say farewell: Ana-Maria Constantin | 360° VR video
Step inside Harvard s 365th Commencement | Harvard 360° video experience
Harvard students say farewell: Rachel Thompson | 360° VR video
Harvard students say farewell: Sreeja Kalapurakkel | 360° VR video
Looks aren t everything. Believe me I m a model. | Cameron Russell
Entrepreneur Inna Braverman s career in 360° VR | The Female Planet
Among the Harvard Graduates
Jack Ma's Ultimate Advice for Students & Young People
Thoughts on humanity fame and love | Shah Rukh Khan
Buck Ain t No Ordinary Dog
Africa: The Youngest Continent
How to speak so that people want to listen | Julian Treasure
A 12-year-old app developer | Thomas Suarez
Baby X
4 reasons to learn a new language | John McWhorter
Almost Zero: Malaria Elimination in Swaziland
2030: smart city life 360 view
Virtual Reality: Inside Google's Innovation Lab
Simple effective tech to connect communities in crisis | Johanna Figueira
Meeting the Musahar
Why I read a book a day (and why you should too): the law of 33% | Tai Lopez
Innovating to zero! | Bill Gates
The Source | charity: water VR Video
What if 3D printing was 100x faster? | Joseph DeSimone
Lisa Feldman Barrett: How the Brain Creates Emotions | MIT Artificial General Intelligence (AGI)
The The Super Mario Effect -
Tricking Your Brain into Learning More
| Mark Rober | TEDxPenn
Top hacker shows us how it s done
| Pablos Holman | TEDxMidwest
Create & Share Virtual Reality for everyone -
A TEDX Talk in 360, Samuel Vonasch, TEDXBasel
Kathayalithu Jeevitham | MANJUSHA SANJU | Episode #09 | AmritaTV
My philosophy for a happy life | Sam Berns | TEDxMidAtlantic
A 360 Look Inside Brooklyn s Farming Revolution
Big Solar Setup Big Mistakes With Solutions
Mr ceo asked me to live in a villa but I let him take me home |ep27-1
¡LAS PREDICCIONES DE BILL GATES PARA 2018 - 2035 REVELADAS! ¡¡¡DEBES VER!!! ¡NO TENGAS MIEDO!

We Live In A Society
Spanish Flu: a warning from history
The 1918 Pandemic Lasted 3 Years Only One Way to End COVID-19 Earlier
How Satellite Images Reveal the Global Impact of the Coronavirus
Why giving away our wealth has been the most satisfying thing we ve done... | Bill and Melinda Gates
ZAOGA FIFMI INTERNATIONAL ANNIVERSARY SERVICE - Pastor Calisto Manyati
A Conspiracy! | #SupernaturalTheology with Justin Perry
Tyra Banks Gets Slammed!

YOUTUBE VS TIK TOK: THE END
No Sex Marriage – Masturbation Loneliness Cheating and Shame | Maureen McGrath | TEDxStanleyPark
50 PIPS A DAY - Understanding The MARKET OPENS At Highs And Lows
Jeff Hawkins: Thousand Brains Theory of Intelligence | Artificial Intelligence (AI) Podcast

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1,000,000
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1,000
100
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1

Viewcount

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(ACT UP), "saw him as the central focus of evil in the world," and compared him to Adolph Eichmann. At one point in the late 1980s, hundreds of protesters gathered outside NIAID offices with banners declaring "Stop Killing Us!" and filling the research campus with chants of "Fuck You, Fauci!" "Anthony Fauci, you are a murderer," Kramer had written in an open letter in 1988; "Your refusal to hear the screams of AIDS activists early in the crisis resulted in the deaths of thousands of Queers" (quoted in Specter, 2020, p. 40). But in late March and early April, 2020, the velocity of conspiracies and the militance of online chatter and personal threats against Fauci was sufficiently alarming to prompt the Department of Justice to approve a security detail for the 79-year-old immunologist.

How do these conspiratorial connections relate to digital (in)justice in today's "smart city" movement? Why is the age of the smart city also the age of Trumpian fake news, "post-truth" politics, and the multiple Covid conspiracies of shadow pandemics of racist Sinophobia, Big Pharma eugenics, and death by 5G? In this chapter, we suggest that this paradox is no accident. Our present Age of Infodemics is not a contradiction. It is the logical, evolutionary bastard of scientific illogic — a strange fusion of rationalist positivist geographical theories and the economics of fundamentalist neoliberalism as applied to the circulation of data and information *through* and *about* cities. Any attempt to understand today's confluence of the digital, the urban, and futuring must contend with the cultural politics of previous incarnations of informational urbanism. It is not just that Bill Gates spoke in one city (Vancouver) while Fauci face-palmed in another (Washington, DC), but rather that the circulating images and narratives of these chaotically conceived connections constitute information flows that reflect and reproduce systemic hierarchies of urban communication, competition, and cultural change. The precision of logarithmically-transformed rank-size distributions in twenty-first-century

conspiratorial audience formation processes (see Figure 1, inset) mirrors the torrent of central-place-theory studies in regional science that remade urban theory more than half a century ago under the banner of "the all-embracing term 'urban system'" (McCann and Simmons, 2006, p. 77; see also Berry, 1964; Borchert, 1967; Friedmann, 1973). Uncovering the lost memories of the fundamental assumptions of twentieth-century city science helps illuminate the dangerous contradictions of today's urban media ecosystems and smart-city discourses.

To elaborate our argument, we'll begin with a brief historical background to a prominent current debate in critical urban theory. It is our contention that a fundamental yet rarely-discussed assumption of the 1960s positivist Quantitative Revolution in urban theory has collided with evolving human-geography definitions of social justice devoted to refined taxonomies of multidimensional intersectional difference. Today's pluralist, poststructuralist urbanisms are hijacked by diverse authoritarian populist political operatives, threatening any notion of progressive urban social change that commits to any kind of equality. Difference is monetized and weaponized. Then we'll return to the empirical realm, deploying this revised standpoint perspective to examine other facets of a fast-changing American urban system of conspiracy, distrust, and resentment in the inherently anti-urban cognitive Anthropocene of Covid-19.

The Evolution of Urban Theory

In disciplinary histories of urban geography, the "post" always comes after something, and reveals greater dynamism, complexity, and critical insight; usually, it's also regarded as the cool, sexy cutting edge of a young new generation working for respect and recognition in the competitive circuits of knowledge production. Industrial urban theory gave way to postindustrial

perspectives, a positivism "ripe for overthrow" (Harvey, 1973, p. 129) was succeeded by multiple postpositivist revolutions, and the material structures of urbanization became postmaterialism, post-Marxism, postcolonialism, poststructuralism, postmodernism, postmodernity — and all of these intellectual movements are "not to be confused" with one another, because all of them (even postmodern*ism* vs. postmodern*ity*) are distinct, different, and internally diverse (compare the dictionary entries of Bridge, 2009, Gidwani, 2009, and Woodward and Jones, 2009a, 2009b). Decades after postmodernism itself was declared dead with the birth of post-postmodernism (Ley, 2003), the "material and mental adjustments" of the "altered ways of reading and representing the city" (Dear and Dahmann, 2011, p. 67) continue to adapt to the diverse, situated local knowledges that coalesce with accelerating "chronocentric" shifts in urban knowledge production at the global scale. If there is a definitive essence of contemporary urban theory, it is the understanding that any assertion of a definitive essence is an invitation to serious, intensive, and contentious debate. Schwanen (2019, p. 5) thus diplomatically introduces the thirty-chapter *Handbook of Urban Geography* by explaining that in this field,

> "crystal-clear and generic definitions are not necessarily required or even helpful; meanings are at least to some extent context-specific, emergent and shaped by the problem(s) at hand. ... different researchers across 'epistemic cultures' ... and to an extent across different localities, work with different understandings of the city and the urban, thereby generating a wide range of insights and knowledge that both overlap and diverge."

At stake in contemporary urban theory is not only the meanings of urbanism and the role of theory, Ananya Roy (2016, p. 820) emphasizes, "but also from where on the map we produce the body of authoritative knowledge that we are willing to acknowledge as theory." Similarly, Cesafsky and Derickson (2019, p. 24) underscore the "vital epistemological point" that "not only where, but *how* and *with whom* one theorizes determines the veracity and efficacy of the knowledge produced." At the precise moment when the globe crossed the majority-urban threshold into a world of variegated expressions of urbanism "without an outside" and interconnected at all scales from the local to the global, the most prominent effort to theorize "the imprint and operationality of urban processes on the planetary landscape" (Brenner and Schmid, 2014, p. 15) is challenged as "a new totalizing analytic" that reproduces the Western, cisheteropatriarchal, colonial, white-supremacist, universalizing science bias of classical urban theory — the "desire to explain the world in its totality — to master the universe" (Derickson, 2018, p. 557). For a new generation "on a wave of critique" from "scholars working with feminist, critical race, and queer theories" and communities (Oswin, 2018a, p. 542), it is imperative to fundamentally diversify and decolonize urban theory. If urban theory is to "remain relevant to the majority of cities and their populations" (Robinson, 2006, p. 2) new kinds of urban knowledge production must be negotiated where the majority of the world's urban population now lives (in the Global South and East) through a shift from deductive to inductive logics and "transurban" learning through deep ethnographic engagement (Cesafsky and Derickson, 2019, p. 26) across difference — while replacing a Western-centric presentism bias of chronocentric thought (Ley, 2003) with a postcolonial depth perspective on "historical difference as a fundamental constituent of global urban transformation" (Roy, 2016, p. 821). Difference at the local-global spatiotemporal scales of historical geographies of urbanization,

colonialism, and capitalism, moreover, intersect with the individual, embodied standpoint

epistemologies of who is writing, speaking, and being heard (or silenced): a genuine encounter

with "urban trajectories from places and spaces beyond European and world cities" requires

serious engagement not just with "bodies of thought beyond European male theorists"

(Derickson, 2015, p. 651) but also the actual bodies and identities of those producing urban

theory.

These were just a few of the many important themes of an event held in May, 2016 at the

City Institute at York University. Predominantly — "although not exclusively —feminist,

postcolonial, and queer theorists" were invited to talk with Neil Brenner and Christian Schmid to

"rethink urban theory from the perspective of planetary urbanism" (Pratt, 2017, p. 563).

"[P]oststructuralist urban theorists work from the premise that everything is on the surface,"

Natalie Oswin (2018a, p. 544) wrote in one commentary on Brenner and Schmid's conception of

planetary urbanization; "everything is 'real,'" in contrast to the base-superstructure models of

Marxian political economy, thus requiring constant immersion and interrogation of the "messy

webs in which the material and the symbolic intertwine." Scholarly debate in the academic

journal *Society and Space* became extensive communication by email and Skype between Oswin

and Brenner. Eventually, Oswin took to Twitter, announcing "I'm breaking up with your

scholarship." "Differential embodiment matters, personally and politically," and it is "a life and

death matter," Oswin (2018b) emphasized, lamenting the repeated "epistemic violence" of

Brenner's failure to cite feminist, queer, postcolonial, and Indigenous scholars. Oswin had

written another editorial in *Society and Space* lamenting the "eerily familiar dismissal of

feminist, queer, critical race, and postcolonial critiques" in the pages of the journal; "There is

evidence everywhere, across all disciplines and all manner of scholarly institutions, of the

existence of epistemic hierarchies and of the valuing of the perspectives of individuals with certain kinds of embodiments (e.g. male, western, dominant racial or ethnic group, straight, etc.) over those of others" (Oswin, 2018c, p. 615). Such hierarchies are critically important in understanding the ubiquitous yet fluid and variegated nature of an urbanizing capitalism that "is everywhere" because "so is everything else," Oswin writes, drawing on Judith Butler's (1993, p. 19) admonition that difference, particularly queerness itself, can never be "pinned down," and must instead be "always only redeployed, queered from a prior usage and in the direction of urgent and expanding political purposes." On Twitter, Oswin (2018b) explained,

"I wrote the editorial because I know that although I have been told all my life

that I am 'less than' intellectually (since I am a 'woman' and 'queer'), that is a lie.

And this lie has been told to me by all manner of people, including by people

(such as yourself, doubtless) who have excellent intentions ... but who are doing

damage anyway ... because they can't see some very important details ... Details

about the many insidious ways that transphobia, patriarchy, homophobia, racism

(and more) work through micro-aggressions, erasures, and yes, 'dismissals.'"

In all of this debate and discourse, there are strange silences between the embodied scales of material and symbolic realities of human difference, and the planetary scale of urban processes, lives, perceptions, and connections. One can hear and feel some of the rumbles of the "high-intensity, high-impact earthquake" of cultural and environmental transformations of worldwide urbanism (Brenner and Schmid, 2015, p. 153) and critical social theory by considering the growing influence of Gayatri Spivak's (2003) concept of "planetarity."

"Planetarity is having a moment," Derickson (2018, p. 556) writes; with the growing attention to the era of humanity as a geological force in the epoch of the Anthropocene,

> "a new collective subject is being reaffirmed: the universal, species-level 'we' ... The once hip 'globalization' now seems tragically passé ... If globalization suggested connected, place-based nodes in a network with variegated degrees of influence resting atop a globe that serves as mere backdrop (think: World Cities), planetarity refuses the nature-culture binary, asserting a deep relationality between the social and a more-than-ecological natural world. 'The globe,' writes Spivak, 'is on our computer. No one lives there.' But to be a planetary subject is to be reminded that alterity, or difference, is fundamental to us, living as we do on a planet that is part of 'another system; and yet we inhabit it, on loan' (Spivak, 2003, p. 72)." (Derickson, 2018, p. 556).

As these debates have challenged the core of critical urban theory at the precise moment of ascendance of smart-cities theory, ideology, and a well-financed "test-bed urbanism" devoted to producing "a fleet of commodity cities" that combine software, hardware, algorithms, screens, and data (Halpern et al., 2013, p. 274), there are puzzling silences on crucial, unstated assumptions. Consider the recurrent themes: multiple dimensions of human difference, Eurocentricity and the othering of the Global South and East, life and death matters entangled with differential embodiments, humans who are told they are 'less than' others, material and mental adjustments of understanding a species-level 'we,' and a planetary transcendence of the nature-culture binary. Why isn't the genealogy of Darwinian evolution in social theory central to these debates? In a post-Haraway (1985, 1989) world, this omissing is jarring. Neither 'Darwin'

nor 'evolution' make the index of Schwanen and van Kempen (2019), or Roy and Ong (2011); there's not a single mention of Darwinism or evolution in Oswin's (2019) powerful indictment of the discipline of geography's erasure of "'othered' people" as "a result of centuries of white supremacist heteropatriarchal grounding"; and neither Darwin nor Darwinism appear anywhere in the massive *Routledge Handbook on Cities of the Global South* (Parnell and Oldfield, 2014).[2]

Discursive disappearance often signifies consensus. When author and reader both take something for granted, there's no need to make it explicit. Presumably, everyone knows that the "'peculiar' Durkheimian" and Comtean sociology of Chicago-School urbanism (Cesafsky and Derickson, 2019, p. 20) was one manifestation of the professionalized Social Darwinism of America in the Progressive Era (Hofstadter, 1944), and that it was the Darwinian revolution that finally completed the century-long struggle to secularize the bastardized Christian "natural theology" into the scientific domain of geology — which then gave birth to the disciplinary infant of human geography that has always struggled to survive (Livingstone, 1992, pp. 177-215). Everyone knows that Darwinian logics of survival-of-the-fittest competition and hierarchies of races and places legitimated "[t]he drive by white supremacist heteropatriarchs to chart, map, exploit, and extract from lands, peoples, flora and fauna previously unknown to them for their own early capitalist gain" (Oswin, 2019, p. 3).

Yet there are several reasons to make this geneaology explicit. First, Darwinian evolution was (and is) only one strain of evolutionary theory and ideology, and the ways in which it was hijacked and distorted into a deterministic technoscience of "master molecules" (Clark and Clark, 2012) are historically and culturally contingent. To the degree that evolutionary theory was kidnapped by European and American colonial white supremacists in the nineteenth and twentieth centuries, other intellectuals and activists can and do work to rescue

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[2] The volume does, however, include several valuable critiques of 'evolutionary' developmentalist ideologies.

it (Boggs and Boggs, 1974; Deloria, 1973; Schmalzer, 2008; Subramaniam, 2014). Human relations, urbanization, and socionature are extraordinarily diverse, nonlinear, multidimensional, and — within certain constraints of physics and chemistry — open to change and transformation. The planetary urban Anthropocene is diverse and co-evolutionary (Harvey, 2011, pp. 119-139). Second, explicit consideration of the politics of evolution is essential in navigating the complex terrain of allies, adversaries, and contradictions as the technologies of measuring human difference and diversity are mobilized in popular culture and politics. Skip Gates's popular PBS series *Finding Your Roots* and Oprah Winfrey's blessing of 23andMe as one of her "favorite things" have turbocharged the popularity of personalized genomics for African Americans seeking to reclaim centuries of ancestry stolen by slavery and rape, even as the same evolutionary technoscience is deployed in the racist carceral urban geographies of Big Data policing (Jefferson, 2020). An encounter with Jane Goodall and behavioral models of C. *elegans* roundworms provided some of the key insights for a brilliant team of "impeccably dressed, blazingly smart, impossibly quirky" queer data scientists in London who developed the Cambridge Analytica computational psychometrics weaponized in Brexit and Trump's 2016 election (Wylie, 2019, p. 51). And amidst the planetary zoönotic co-evolution of Covid-19, transnational Sinophobia, and other strains of xenophobia, Trump appoints the Christian-creationist anti-evolutionist Mike Pence to head the White House Coronavirus Task Force. If a speech act is a "nexus of power and discourse" with the capacity "to produce that which it names" (Butler, 1993, p. 17), and everything is on the surface and real (Oswin, 2018a, p. 544), then it is urgent to pay close attention to the way cybernetic manifestations of intersectional identities are made real and behaviorally manipulated through the ethnographic engagements pursued by political operatives. Christopher Wylie, the Cambridge Analytica whistleblower who

calls himself "the gay Canadian vegan who somehow ended up creating Steve Bannon's

psychological warfare mindfuck tool" (Cadwalladr, 2018), describes the first time they met:

> "We talked for four hours — not only about politics but about fashion and culture,
>
> Foucault, the third-wave feminist Judith Butler, and the nature of the fractured
>
> self. ... As we started trading ideas on measuring culture, I offered to show him
>
> some of our data. I opened a Tableau workbook and called up a map... 'Those are
>
> real people, by the way,' I said '...the ones we have demographic data on ...
>
> gender, age, ethnicity.' I clicked again ... 'now we are adding in online
>
> footprinting — like internet browsing.' I clicked again. 'And here are records with
>
> census information ... and now social media profiles.' I continued to add layers
>
> and he leaned in." (Wylie, 2019, p. 60).

This brings us to a third set of reasons for an explicit consideration of evolutionary

theory. We gain access to new possibilities in charting new evolutionary paths (Boggs, 2012)

when we examine the technoscientific development of evolutionary theory (Haraway, 1989;

Clark and Clark, 2012) in relation to the poststructural socio-cultural politics of evolutionary

thought in the context of contemporary transnational urban 'worlding' practices (Deniz and

Borgerding, 2018; Roy and Ong, 2011). We are part of the first generation of humans to live in a

majority-urban world, and the embodied material differences of this world are now put into

constant communication (and conflict) in the everyday practices of interconnected billions in

'networks of outrage and hope' (Castells, 2012) — even as these aspirations are mediated and

manipulated in algorithmic online ecosystems where humans are outnumbered by automated,

adaptive bots. All of these historic thresholds were crossed simultaneously around the year

2007, along with the emergence of contemporary smart-city discourse (Townsend, 2013).

Derickson's (2018, p. 559) valuable reminder that we cannot understand urbanization "if we don't understand how axes of difference shape and condition the possibilities under which urbanization happens" thus takes on new meanings in light of the accelerating co-evolution of cultural politics, embodied experiences, and cybernetically performative discourses of human difference. Consider Kwame Anthony Appiah, one of the world's most prominent theorists of emancipatory, polycultural hybridity (Appiah, 1997) and the "astonishing geographical range" of post-essentialist "interrelations of postcolonialism, nationalism, and ethnicity" in the production of individual and collective human subjectivities (Appiah and Gates, 1995, pp. 1-2). Not long ago, Appiah expressed second thoughts on matters of identity and representation after studying the multidimensional intersectionalities of women who voted for Trump. Appiah wrote a *Times* editorial (Appiah, 2018) — published the day before Oswin's Twitter break-up with Brenner's scholarship on planetary urbanization — to warn of the risks of performative declarations of positionality in the ever-evolving complexity of intersectionality: "Your 'as a' doesn't settle anything." A few days later the *Times* published a series of replies, including one from Jacqueline in Colorado, who expressed frustration with the constant social pressures to speak "as a" transgender person. Doing so, Jacqueline explains, means

> "projecting my personal experience on to several million people. Transgender people aren't all victims who deserve pity/help/affirmative action. I made six figures last year, and own a house and a $10,000 hot tub. I'm also not just transgender. I'm a cannabis consultant. I went to M.I.T. I like gold prospecting. I own 10 guns. I hate cities." (quoted in Harris and Tarchak, 2018).

To the best of our knowledge, Jacqueline is not an authority on urban theory — for that we must consider another perspective from M.I.T., Devin Michelle Bunten (2020), an Assistant Professor of Urban Economics and Housing; Bunten writes about men menstruating and giving birth, women with penises, and "anti-trans revanchists" like J.K. Rowling. Bunten's analysis of public discourse and U.S. Supreme Court decisions highlights the importance of linguistic evolution: "Words hold power," Bunten (2020) emphasizes, and "definitional conservatisim" is nothing more and nothing less than "an attack on trans lives"; "The battle for civil rights is the battle over words."

To the degree that words constitute attacks on lives, it is dangerous to dismiss the "view from outside" (Oswin, 2018) of positionalities like those of Jacqueline from Colorado. The "I hate cities" vote reflects and reproduces America's eighteenth-century colonial white-supremacist Electoral College in today's polarization between urban and rural states; and at the county and precinct level over the past half-century, urbanization (as proxied by population density) has become ever more tightly correlated with Democratic vote shares, yielding electoral 'inefficiencies' for progressives and systemic advantages that allow Republicans to translate popular vote losses into decisive political control (Rodden, 2019). The "pathologization of urban space" in conservative political strategy has been a long-term project — Hackworth (2019) documents the strengthening correlations among whiteness, Republican voting, and suburban/exurban population growth in the Rustbelt from 1932 to 2016 — but with the shift of everyday social life to online environments, such tactics have been exponentially refined, weaponized, and accelerated. At the same time, the multiple generations of ruthless strategy pursued since the emergence of the modern conservative movement with Barry Goldwater's 1964 campaign — memorably diagnosed by Hofstadter (1964) as "The Paranoid Style in

American Politics" — have consolidated increasingly regressive precedents into law and jurisprudence, reanimating eighteenth- and nineteenth-century strict-constructionist ideologies. The Second Amendment is only one of the notorious, deadly examples — given a creative postmodern gloss in Antonin Scalia's linguistic wizardry of the Amendment's "prefatory clause" and "operative clause" in the 2007 *Heller* case striking down the inherently urban public interest of a local gun-control ordinance. Jacqueline's gun-loving, gold-digging transgender hatred of cities represents *precisely* the kind of unexpected intersectionality that is now regularly measured, mined, and manipulated. Wylie (quoted in Cadwalladr, 2018) distills his assessment of Steve Bannon: "Smart. Interesting. Really interested in ideas. He's the only straight man I've ever talked to about intersectional feminist theory. He saw its relevance straightaway to the oppressions that conservative, young white men feel." In a boardroom meeting in London in 2015, Wylie's team demonstrated the psychometric micro-targeting potential of relational databases of millions of potential voters. "Give me a name," said one of the Cambridge Analytica data divas; "Bannon looked bemused and gave a name. 'Okay. Now give me a state.' 'I don't know,' he said. 'Nebraska.'" They "typed in a query," and soon they were looking at the Facebook posts, mortgage application data, and gun ownership records of an Audi-driving unmarried mother from Nebraska who loves Katy Perry and voted for Mitt Romney in 2012. "We had re-created her life in our computer," Wylie (2019, p. 110) recalls, and "She had no idea." Then they reached for the phone, and started calling people with the ruse of a Cambridge University survey to test the accuracy of their data and models. "We went around the room, all of us taking a turn," Wylie (2019, p. 111) reflects; "It was surreal to think that these people were sitting in their kitchen in Iowa or Oklahoma or Indiana, talking to a bunch of guys in London

who were looking at satellite pictures of where they lived, family photos, all of their personal information."

Brian Berry's Smart Cities of 1969

Cut to 1969. In April at the National Black Economic Development Conference in Detroit, James and Grace Lee Boggs presented an "evolutionary humanist concept of revolution" in the *Manifesto for a Black Revolutionary Party* — a proclamation that the anti-colonial and anti-imperialist movements of Vietnam, China, Cuba, the Middle East, and the recently-liberated colonies of subsaharan Africa were literally producing a new, emancipatory humanity, "the politically most advanced human beings the world has ever known" (Boggs and Boggs, 1969, p. 227). On the last weekend of June in New York's Greenwich Village, drag queens attacked the police officers who were assigned to that week's iteration of the familiar, mundane tyranny of harassment at the Stonewall Inn — an act of resistance that launched the modern gay liberation movement. Steve Bannon, the son of a telephone company lineman who had made it into management at AT&T, was in Benedictine College Prep, an all-boys Catholic military school in a working-class, inner-ring suburb of Richmond, Virginia; it was a tough neighborhood, "quite Darwinian for a young person," Bannon recalled in a PBS *Frontline* interview. In Seattle at the elite private Lakeside School, Bill Gates and Paul Allen formed the Lakeside Programmers' Club, and got free computer time in return for typing commands that would crash the programs of C-Cubed, the Computer Center Corporation, which sold processing time on a mainframe and leased terminals to businesses across the Pacific Northwest; Gates and Allen were paid in the currency of time for a type of labor that was then coming to be known as 'de-bugging,' what in contemporary computational philosophical discourse (Himanen, 2001) would be called white-hat

hacking. Anthony Fauci, a Clinical Associate in the Laboratory of Clinical Investigation at NIAID, submitted a manuscript reporting on a study of the "correlation between the affinity of antibodies and their biologic activities" to the *Journal of Immunology*. David Harvey, who had recently submitted page proof corrections for a textbook of progressive social change backed by science and technological efficiency (*Explanation in Geography*), arrived in Baltimore to take up a position at Johns Hopkins University — and suddenly "felt sort of idiotic." The intense focus required to complete a 500-page "systematic investigation of the quantitative revolution and its implications" in a corresponding "philosophical revolution" (Harvey, 1969, p. v, vi) had distracted him from revolutionary ferment in the streets in "Paris, Berlin, Mexico City, Bangkok, Chicago, and San Francisco" as well as Baltimore. It seemed that "the world was collapsing and cities were going up in flames" (Harvey, 2002, p. 168). And in the fall of 1969, Brian J.L. Berry, Professor of Geography and Director of the Center for Urban Studies at the University of Chicago, was on leave — teaching at the Royal Institute of Technology in Copenhagen, but traveling frequently. He flew to Athens to work with Constantine Doxiadis, who was building a new field called 'ekistics,' the science of human settlements; he flew to London; and he flew to Washington, DC, where he was serving on the National Goals Research Staff that Nixon had established to implement strategic planning and policy development.[3] On one of his trips, Berry was asked to speak at the upcoming meeting of the Institute of British Geographers, and so "a long, grey, wet Danish weekend" was devoted to writing a talk analyzing the distinctively American "*changes in the nature of change*" in processes of "time-space compression and

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[3] This position led to a widely publicized meeting in the White House Cabinet Room with Daniel Patrick Moynihan and a dozen other advisors; after Berry was recognized in a photograph of the meeting he received threatening postcards and telephone calls with death threats against his family (Berry, 2006, pp. 136-137).

immediacy of communication" throughout a national urban system (Berry, 2004, p. 96). "[T]o stimulate the imagination," Berry (2004, p. 96) recalls, Stanley Kubrick's "*2001: A Space Odyssey* was showing at the cinema a block away." Berry's address, subsequently published as "The Geography of the United States in the Year 2000" (Berry, 1970) was a synthesis of technological forecasting and the "urban systems" paradigm that had made Berry the most widely-cited geographer in the world in the recently-created Social Sciences Citation Index. Berry's work over the previous decade had demonstrated that interdependent networks of urban centers tied together by flows of commodities, labor, capital, ideas, and political power exhibit hierarchical regularities that could be modeled with striking mathematical precision. With sufficient data, it was possible to reveal systemic hierarchies in the numbers of cities of varied sizes, the diversity of their economic functions, and the size of their trade areas and zones of influence. Once calibrated in one setting, urban systems equations could be deployed elsewhere — gradually building an interdisciplinary, policy-relevant framework of "optimal" configurations of cities to serve the needs of populations at the scale of national, regional, municipal, and neighborhood scales: cities were fractal "systems within systems of cities" (Berry, 1964). In his IBG lecture on trends in the United States, Berry diagnosed an ever-wider divergence between a) the dynamic growth of what Doxiadis called 'daily urban systems' expanding through technological innovation and economic diversification, and b) inter-urban peripheries where economies and populations were trapped in long-term decline.[4] At the same time, race- and class-selective migration outward from city centers to increasingly distant exurbs was accelerating, yielding a profound "inversion" away from industrial-era centralization

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[4] Exceptions to the latter trend were those rural regions with "exceptionally high fertility rates" among Indigenous peoples and other ethnoracial minorities.

towards a "scatteration" across hollowed-out, postindustrial metropolitan settlement systems. And it was all enabled by an emerging era of "telemobility," with advanced electronic technologies "replacing movement of persons by movements of messages," as "mechanical environments" gave way to "electronic environments." The "conservative, evolutionary view" of an old, mechanical geography of spatial constraints and the friction of distance was ending; now, "[t]he revolutionary aspect of electronic environments is not that they reduce the frictions in moving goods and people, but that they move the experience itself to the human nervous system" (Berry, 1970, p. 49). Berry then offered a detailed account of smart-city living:

> "Let us imagine a particular space and time c. 1986: a home in the suburbs of Phoenix. A man is sitting in the middle of a circular room and on the curved walls around him he can see the ocean-surf breaking over the rocks and foaming up the beach; a fish hawk trembling in the luminescent sky. Across from him sits another man, and the two of them are talking to each other. Once in a while, the boom of the bursting surf and the cry of the hawk intrude upon their conversation.
>
> Let us now say that the room is underground and has no 'real' view at all; that what is experienced on the curved walls is an image on a 'flat wall' television screen, pre-recorded in Hawaii, and now being played electronically. Let us further say that the first man is 'real,' but that the second man is being broadcast by laser beam from a satellite and recreated, in color and full dimension (you could walk around his image and see the back of his head) by 'holography,' so that though he is 'there,' in Phoenix at the moment, he is 'in reality' at the same moment sitting in his study at the University of Edinburgh.

Where, in this situation, does 'reality' begin and end? This is a question that ...

we will, individually, be asked to answer. ... We have already entered a new world

of experience." (Berry, 1970, pp. 49-50).

These were not Berry's words. He was quoting from a promotional brochure produced

by the Kaiser Company, the massive U.S. industrial conglomerate that had expanded from road-

building and bridge-building to wartime ship construction, and then automobile manufacturing

and eventually television broadcasting; the scenario envisions pre-recordings in Hawaii because

the company's first station acquisition was KHVH in Honolulu. The Kaiser Company vignette

was a perfect coda to Berry's vast panorama of theoretical synthesis and empirical evidence

presented in maps and statistics, offering a futuristic smart-cities vision that channeled the

technological optimism of the age. The old material manifestations of concentrated human

settlement were being transformed into what the Berkeley urban theorist Melvin Webber (1964,

p. 86) had seen when he defined the modern metropolis itself as a "massive communications

system." The optimism of 1960s urban-systems science was prescient, although the late-1980s

timeline was a bit too optimistic. In early April of 2001 Texas Governor Rick Perry was

'teleported' from Austin to Dallas to conduct a "virtual ribbon cutting" for a new Center for

Collaborative Learning, Research, and Communications Technology at the University of Texas

at Dallas. Perry appeared as a "holographic-like image" in a technology enabling "audio, visual,

and interactive projection of a person (digital image) who has eye contact with viewers at several

sites," the press release announced, and local journalists celebrated the way Perry "knew he was

making history ... when he materialized before a group of ... business leaders in the first

successful demonstration of a technology called 'teleportation.'" (quoted in Berry, 2001, p. 303). "What will be the respective roles of place and space" with the proliferation of these new possibilities, Berry (2001, p. 304) wondered, "and how will they vary across different geographical scales — local, regional, national, continental, global — or will scale itself cease to matter?" "A host of exciting research questions is opening up for the next generation of urban geographers," Berry (2001, p. 304) observed.

But by that point, the next generations weren't interested, due in part to the steady stream of "deliberately incendiary" commentaries that Berry was writing as Editor-in-Chief of *Urban Geography* in defense of scientific modernism, quantitative positivist rationality, and American capitalist liberalism (Berry, 2004, p. 98). Berry had come to embody the worst of geography's old-guard hegemony of conservative spatial science. Ever since the legendary debate over "revolutionary versus counter-revolutionary" urban theory (Berry, 1972; Harvey, 1972), successive generations of progressive and radical geographers recoiled from Berry's methodology, epistemology, and politics — until Harvey displaced Berry as the world's most-cited geographer in the second quarter-century of the SSCI, and himself became the new old-guard target for postmodernists and poststructuralists in a 'cultural turn' emphasizing gender, sexuality, positionality, and the contingencies of situated knowledge (Deutsche, 1991; Gibson-Graham, 1993; Harvey, 1992b).

This trajectory from positivist spatial science to Marxist geography to a diverse, heterogeneous cultural turn is part of the historical account of urban geography that Oswin (2019, p. 3) calls the "liberal progress narrative." For more than fifteen years, Oswin has taught this narrative in the canonical 'history and theory of geography' courses that help reproduce disciplinary identity among geography majors — and this fact, we would suggest, itself attests to

the fundamentally evolutionary dynamic of urban knowledge production. If the possibility that "classrooms might be reconfigured in the spirit of decolonial, feminist, anti-racist, queer, and anti-capitalist politics" (Catungal, 2019, p. 48) is a priority, then this is what we should really mean by the phrase "smart city": the core disciplinary urban curriculum taught by a distinguished feminist queer theorist researcher specializing in the geographies of sexuality, globalization, and urbanization. This is what it means to "reevaluate knowledge created in the past and produce new knowledge, as we educate the generations of geographers who will succeed us" (Berry, 1980, p. 449). And yet Oswin recently decided this history is "all wrong," a distorted and self-congratulatory narrative of linear improvement culminating in a pluralist progressivism around the end of the twentieth century. The real story, Oswin now suggests, is about a relentless perpetuation of colonial, hierarchical partitioning of territorial, human, and nonhuman natures by and for groups of (almost exclusively) White, cis, straight, Western men:

> "The drive by white supremacist heteropatriarchs to chart, map, exploit and
> extract from lands, peoples, flora and fauna previously unknown to them for their
> own early capitalist gain set geography into motion as a discipline and embedded
> a disregard and disdain for difference and social justice into the fabric of
> geographical thought and practice. By the 20th century, when the earth was all
> mapped and mostly claimed by some Europeans and their nation states, and
> tensions among the global powers culminated in World Wars I and II, many
> geographers then provided intelligence for military efforts. As such, the region
> and the nation were added to the globe as scales that geographers could expertly
> advise upon and influence. Spatial science, that effort to prove geography's worth
> as an objective, scientific endeavor, came directly out of the military

collaborations of the Second World War. In the dawning era of late capitalism,

the 'space cadets' used new computational capabilities to search for spatial laws

with an eye toward helping governments and businesses achieve economic

efficiency. As global capitalism was clearly becoming increasingly reliant on and

tied to cities, spatial science research focused on this domain, thus expanding

existing geographical claims to expertise on the globe, the region and the nation to

the urban" (Oswin, 2019, p. 3).

It is not a criticism to note that this is just one reading — a situated, partial, and brilliantly

embodied reading from a unique standpoint epistemology — of the history of geography and

urban theory. Other facets of the social situatedness of urban knowledge production should not

be forgotten. While there is no doubt that colonialism, war, and the military-industrial complex

were profound influences that shaped the discipline of geography and distorted the evolution of

urban theory, the converse is another matter: urban theory and geography were always

peripheral compared to other fields, especially with the ideological reinforcement of American

exceptionalism. Millionaire publisher Henry Luce's 1941 proclamation of the 'American

Century' channeled both popular and elite sentiments of an outward-focused, expansionary,

agile, and mobile "victory over geography" in contrast to the global-yet-insular territorial

violence of dying nineteenth-century European empires (Smith, 2003, p. xviii). Geography's

position in academic institutional hierarchies was tenuous from the very first Department of

Geography in the U.S. at the University of Chicago in 1902. When Harvard President James

Conant famously declared "Geography is not a university subject" to justify the 1948 decision to

kill the department, at least part of the true motivation was the failure of Derwent Whittlesey,

Harold Kepm, and Edward Ackerman to conform to the cisheteropatriarchal expectations of that time and place. The elite condescension and hierarchical precedence of the Harvard closure echoed across time and space in Geography department closures at Yale, Stanford, Northwestern, Columbia, Michigan, Pittsburgh, Temple — and only a few years after Berry departed, Chicago itself. Narratives of coherent disciplinary projects are not easily reconciled with the situated, embodied context and contingencies of, for example, Harvey's first year in Baltimore; he took shifts with students and activists sleeping on the pavement to protect the local branch of the Black Panther Party after the FBI assassination of Fred Hampton in Chicago in December, 1969. Harvey turned away from positivist spatial science towards Marxist revolutionary urban theory *despite* disciplinary history and institutional prestige — which, in any event, at that time and place was hardly the beating heart of elite strategic cisheteropatriarchal planetary colonial white supremacist imperialism: Geography and Environmental Engineering at Hopkins was best known for drainage, sanitation, and waste management. To be sure, Harvey (2002) recalls, the institution was "conservative and reactionary," but he was able to build a network of brilliant radical collaborators. Notably, of all the strongest influences on his thought — Erica Schoenberger, Nancy Hartsock, Donna Haraway, Alejandro Portes — none were trained as geographers.

Indeed, the indictment of white supremacist heteropatriarchs and the hard-to-kill "zombie" positivist science of America's military-industrial complex (Steinmetz, 2005) becomes strategically valuable only when aimed at the proper targets. Urban geography is not the proper target, and Brenner and Schmid are allies, not adversaries. Quantitative-revolution geography was so widely portrayed as revolutionary (and is now so widely seen as counterrevolutionary) precisely because it was not geography as codified in the hegemonic, Kuhnian normal science of

that generation whose educational "mental structuring" (Ackerman, 1963, p. 433) happened to be labeled "geography." In the particular case of the urban theory developed by the world's leading quantitative geographer, the fundamental insights were drawn from an interdisciplinary constellation of linguistics, mathematics, physics, engineering and operations research, and biology. Berry's "cities as systems within systems of cities" was a grand synthesis. One ingredient was the rank-size rule, the obsession of the Harvard linguist George Kingsley Zipf (1949) — whose work has more recently been rediscovered by data scientists developing Big Data as a "lens on human culture" as part of Google's massive book-scanning project (Aiden and Michel, 2013). Another element was the framework of market centers serving populations of varied densities, which came from Walter Christaller, an aspiring German economist who wound up completing a Ph.D. supervised by a biogeographer only because no economist would take him on — and literally a Nazi (Barnes and Minca, 2013). And all of the systemic hierarchies of big and small cities as well as internal socioeconomic variations were explained in terms of the transdisciplinary technosciences of cybernetics, information theory, mathematics, and physics that flourished during and immediately after the Second World War. Cybernetics and information theory were particularly important in Berry's development of simultaneous equations for urban growth and the number and types of business establishments in urban centers: Berry (1964, pp. 158-159) builds on the work of the economist Kenneth Boulding, the cybernetics entrepreneur Stafford Beer, and the 'General Systems Theory' (GST) developed by the biologist Ludwig von Bertalanffy. Berry's assemblage was undisputably influential, but it was just one of the era's many efforts to apply the "all-embracing" symbolic languages of the hard sciences to social phenomena like cities — a lineage that endures from Jane Jacobs' ideas on self-organizing urban dynamics inspired by the information theorist Warren Weaver to

today's social-physics urbanization of complexity theory (Batty, 2018, p. 6; see also West, 2017). But there is a special significance to the particular distillation of GST that Berry (1964) cites — von Bertalanffy's (1950) "Outline" in the *British Journal for the Philosophy of Science* — in light of the fact that Berry was a junior faculty member at Chicago, refining his epistemology, methodology, and politics while "sitting in the back of Milton Friedman's courses in macroeconomics" (Berry, 1993, p. 439). Right at the beginning, only a few paragraphs into the section on 'Parallel Evolution in Science,' Bertalanffy attacks the "disastrous" consequences of "collectivism," reflects on Oswald Spengler's notion of civilizations as "superorganisms," and then cites Friedrich Hayek's (1944) *Road to Serfdom*.

If it seems strange to see a previous century's Decline-of-the-West and 'Keynesianism leads to Hitler' anxieties referenced in a consideration of today's attempts to advance social justice in the age of smart cities, the connections became a bit clearer when U.S. Senator Rand Paul's Covid-19 diagnosis highlighted the political paradoxes of America's anti-urban conservative coalitions. On a Wednesday in late March, 2020, Paul spoke on the Senate floor against a $1 trillion economic rescue package, reminding everyone of the long history of pandemics, recalling his parents' vivid memories of polio in the 1950s, and praising American entrepreneurs' track record of "great innovation and perseverance" in developing vaccines. Paul declared that anything the government does now "should be short-lived, temporary, and cause as little distortion as possible." Paul wanted the spending to be offset by cuts elsewhere in the federal budget. Four days later, Majority Leader Mitch McConnell told Republican Senators over their Sunday lunch that Paul had tested positive for Covid-19; Paul had been walking throughout the Capital "asymptomatically" in his normal routine for a solid week, after learning that he had attended a fundraiser with two individuals who later tested positive. As news spread

of the first U.S. Senator to be infected, Paul literally came to embody a definitive contradiction

of American conservatism since the 1960s: a steadfast commitment to Hayek's free-market

doctrine of unregulated market innovation, along with a blend of ignorance, hypocrisy, and

deception on the true essence of Hayek's philosophy. An opthamologist and the son of Ron

Paul, the Republican Congressman and perennial Presidential candidate famous for blending

Austrian economics with Texas right-wing populism, Rand won his Kentucky Senate seat in the

Tea Party wave of 2010 along with a large cohort of other acolytes in FreedomWorks' efforts to

"fill Congress with Hayekians" (quoted in Davidson, 2012). Rand Paul regularly drew on Hayek

when studying biology and writing for the student newspaper at the Baptist Baylor University in

the early 1980s, even as he gently chided the school's fundamentalists who attacked the

administration for permitting the teaching of evolution. When he entered politics, though, Paul

clearly understood the imperative of contemporary religious American exceptionalism. Public

acceptance of evolutionary science exceeds 70 percent across most of Western Europe,

compared with only 40 percent in the U.S. — a share that has fallen significantly over the last

thirty years (Miller, Scott, and Okamoto, 2006). Diverse yet decisively hostile strains of anti-

Darwinian theology and creationist ideology have become a core commitment of the Republican

base, which routinely surfaces in questions of public school science curricula. The months prior

to the 2016 GOP primaries featured a wide variety of anti-evolutionary rhetoric, ranging from

evasion (Scott Walker, Chris Christie) to false-equivalence advocacy of teaching evolution as

"just a theory" alongside creationism (Rick Perry's preferred form of teleportation) to aggressive

promotion of creationism or intelligent design (Mike Huckabee, Rick Santorum). In his 2010

Senate campaign, Paul carefully dodged the issue, at one point responding to a question about

geology and evolution by telling parents at the Christian Homeschool Educators of Kentucky,

"I'm going to have to pass on the age of the Earth."

Hayek's Planetarity

"Today, Hayek is quite famous, familiar to viewers of YouTube, denizens of
Silicon Valley, and members of the Tea Party; but that does not mean these
modern admirers understand his subtle ideas concerning knowledge and
information and how they changed over his lifetime."

(Mirowski and Nik-Khah, 2017, p. 62).

"...the pandemic exploses a global vulnerability. ... Vulnerability is not just the
condition of being potentially harmed by another. It names the porous and
interdependent character of our bodily and social lives. ... On the other hand, the
public response to the pandemic has been to identify 'vulnerable groups' ... Black
and Brown communities deprived of adequate health care throughout their lives
and the history of this nation. ... poor people, migrants, incarcerated people,
people with disabilities, trans and queer people who struggle to achieve rights to
health care, and all those with prior illnesses and evolving medical conditions."

Judith Butler (quoted in Edsall, 2020).

The argument here is that urban geography's ancestral smart city — the universalizing,
hierarchical midcentury positivist technoscience that Oswin and entire generations have justly

challenged — was not actually geography at all. Berry's (1964) urban systems framework was one of many manifestations of the wide, transdisciplinary postwar movement to theorize and operationalize cybernetics and the mathematics of information. At the intersection of the physical and human sciences, economics was dominant even as that field was undergoing its own revolution — a combined transformation of epistemology, ideology, and orchestrated political strategy led by the Mont Pelerin Society and a growing transnational "Neoliberal Thought Collective" (NTC) that eventually became "the idea that swallowed the world" (Metcalf, 2017). Berry, who had studied economics as an undergraduate, was enthralled by Milton Friedman at the precise moment when a decade of theoretical revolutions in Chicago economics had finally achieved crossover political possibilities. Hayek's time at the Committee on Social Thought at Chicago (1950-1962), the diffusion of *Serfdom* through the best-selling consumer magazine in the U.S. (*Reader's Digest*), and Friedman's (1953) popularization of Hayek's theorization of the inescapable superiority of unregulated free-market competition helped write the catechism of the modern conservative movement. Then the neoliberal gospel was spread by Barry Goldwater, a devoted Hayekian who distilled the ponderous *Serfdom* to pithy one-liners like "Extremism in defense of liberty is no vice." In the short run, in 1964 voters weren't ready to buy Goldwater's free-market purity when distracted by LBJ's memetic innovation — trolling the press with the notorious 'Daisy' nuclear war attack ad, punking Barry's dog-whistle revanchist slogan "In your heart you know he's right" into the crisp "In your guts you know he's nuts." Yet in the long run, ever since the 1960s Hayek's ideas have been written into the policy source code of American *economic* conservatism, while right-wing electoral strategies have relied on intensified anti-urban forms of *cultural* conservatism — from Nixon's southern strategy and law-and-order discourse to Reagan's racist tropes of defending

states' rights and taming welfare queens to the Bannon-Trump formulation of urbanism as "American carnage." This intergenerational project involved vigilant policing of the boundaries between *retail* ideas tailored for mass-market consumption (capitalist prosperity, freedom from government interference and socialist tyranny) versus the specialist *wholesale* ideological infrastructure for the cognoscenti in hierarchies of policy and power (Mirowski, 2011; Peck, 2010).

It is the latter, wholesale elements of Hayek that have achieved widespread appeal among 'traditional' conservatives as well as libertarians and self-styled Silicon Valley progressives — catalyzing alliances that have literally built the revolutionary electronic environments that Berry glimpsed in late 1969 as he reflected on the HAL 9000 and changes in the nature of American change while the urban experience was moving to the human nervous system. In "The Use of Knowledge in Society," Hayek (1945) attacked Keynesian planning by explaining that economic knowledge — all the details of supply and demand, quantity and quality, consumers' needs, tastes, and desires — was so widely dispersed and embedded "in the particular circumstances of time and place," that it would always be impossible to assemble all relevant information in any kind of central planning authority. Hayek (1945, p. 528) framed the development of the price system, "the central theoretical problem of all social science," in terms of the contradictions between individual, embodied human knowledge versus the aggregate, collective wisdom of human relations as constituted through the market. The price system is "a mechanism for communicating information," Hayek (1945, p. 526) emphasized, and the circulation of data in a competitive market coordinates the knowledge distributed among multiple minds in ways that will always be superior to the thoughts of any kind of limited embodiment of human consciousness — ordinary individual decision-makers, but also elite groups of society's most

brilliant economic technicians in central planning authorities. Market processes assemble the ignorance of individual consciousness into a species-wide collective wisdom, and the most important feature of this alchemy "is the economy with which it operates," Hayek (1945, p. 526) argued, because of "how little the individual participants need to know in order to be able to take the right action." For Hayek (1945, p. 527), the price system "would have been acclaimed as one of the greatest triumphs of the human mind," and yet the Smithian invisible hand seems discredited by its own invisibility: the market of endlessly-adjusting responses to the infinitely-changing complexities of human wants and needs "is probably the most complex structure in the universe," (Hayek, 1988, p. 127), but "it is not the product of human design," and "the people guided by it usually do not know why they are made to do what they do" (Hayek, 1945, p. 527). Crucially, as Mirowski (2011; Mirowski and Nik-Khah, 2017) demonstrates, Hayek's epistemology excludes all *a priori* distinctions between accurate and inaccurate information on prices and other data — between "true" versus "false" information — because the only reliable arbiter of the validity or utility of knowledge is The Market. It is this conception of smartness — the market of price signals as a transhuman, collective mind and information-processing phenomenon beyond human design or direction — that Lawrence Summers called "the Hayek legacy," the "single most important thing to learn from an economics course today" (quoted in Yergin and Stanislaw, 1998, pp. 150-151). It's also the basis of the Silicon Valley algorithmic zeitgeist of the wisdom of crowds, the 'hive mind,' crowdsourcing and crowdfunding, of the famous maxim of Jim Lavoie, developer of mission-critical Web 2.0 software for the Department of Defense and back-office systems for casinos and internet gaming sites: "Nobody's as smart as everybody."

This is where we see the fundamental historical-geographical contradictions of the informational architectures that now mediate a Covid-19 urban world. Fatal contradictions are encoded in the digitized electronic environments where Fauci-Gates conspiracies spread, where a brilliant urbanist whose aspirations have been shaped by dismissals as "less than" because of queer femininity tweets an intellectual breakup with another brilliant urbanist, and where a queer data scientist creates the machinery by which the lives of Audi-driving unmarried mothers are recreated in computer databases that enable the vote-hacking of America's anti-urban antebellum settler-colonial Electoral College. Mirowski's (2011) panoramic histories of the NTC's transnational strategies document that while neoliberals did not create the Internet, they immediately understood its potential for their political project. Axiomatically, capital accumulation relies on market information; the market is omniscient, collective human wisdom; and money and price signals function to coordinate the neural impulses within separate embodiments of human consciousness into networked assemblages of economically optimal divisions of labor (Hayek, 1941, 1968). Ergo, any technology that expands the combinatoric diversity or circulation velocity of market information is inherently and inescapably good. It is an unpalatable yet crucial truth that Natalie Oswin, Christopher Wylie, and Steve Bannon share a common bond — a respect for the power of Judith Butler's philosophy — while Donna Haraway's analysis of technological human nature is also a genealogy of Hayek: both began their careers as biologists. What every literate, elite neoliberal strategist truly understands but can never admit in front of Republican voters is that Hayek authored the original cyborg manifesto — the true cisheteropatriarchal colonial white supremacist worldview that has smuggled nineteenth-century Social Darwinism into a world of TikTok memetic planetarity. It is not coincidental that Jimmy Wales was inspired to create Wikipedia after reading Hayek's

(1968) "Competition as a Discovery Procedure," or that Buzzfeed founder Jonah Peretti studied with Donna Haraway, or that Facebook first investor Peter Thiel is a key figure in the "transhumanism" vision of human consciousness uploaded to cloud-computing immortality; only a few months after receiving the Hayek Lifetime Achievement Award at the Liechtenstein Garden Palace in Vienna, Thiel took the stage at the Republican National Convention in Cleveland, reminding the delegates of his memories of Cleveland in 1968 — back when "all of America was high-tech." "I am proud to be gay," declared the transhumanist PayPal entrepreneur who had secretly financed Hulk Hogan's sex-video lawsuit to bankrupt *Gawker* for outing Thiel; "I am proud to be a Republican. But most of all, I am proud to be an American."

Hayek himself was able to refine a gentle, modest-witness performativity when neoliberalism was ascendant in the cosmopolitan world system of market reforms advanced by Thatcher in Westminster, Deng in Beijing, and Reagan in Washington, DC at the end of the 1970s. Arriving in late 1982 from Venezuela after presenting to a conference on 'The New International Financial Order' in Caracas, Hayek was hosted in Washington by the Heritage Foundation, chatting quietly "with the ease of a man who has weathered a lifetime of astonished protests from students, dinner party partners and fellow economists" (Allen, 1982). "When I was very young," Hayek quietly explained, "only the very old believed in classical liberalism. Now that I am very old, we're winning a flood of very young people to our side." As the cadres of market fundamentalists who would be come to be known as the 'young Turks' implemented Reaganism across Washington and U.S. state capitols, the Heritage staffers "hover[ed] around him with a combination of delight and awe that [made] them seem like small boys around a football hero" (Allen, 1982). Hayek was then an 83-year-old Nobel laureate and survivor of a heart attack misdiagnosed as depression. He had learned to emulate the friendly micro-embraces

of feminist affect and the kind modesty of partial, situated, local knowledges. He was "at ease with ignorance" (Allen, 1982) because agnotology was the essence of his philosophy. What was mistakenly called "capitalism," Hayek argued, was in fact a "spontaneous order" of extended human communication and cooperation. Market relations are the most advanced information processing technology in the universe. The Market is the product of millions of years of evolution. It's inevitable and optimal, and that's why Thatcher, who studied Hayek so carefully, declared that there is no alternative. Hayek could comfortably stage the quiet charade of a gentle standpoint epistemology while Nixon and Kissinger handled the thuggery required to persuade any socialist holdouts not yet convinced of their inevitable evolutionary demise, sending the Chicago Boys to advise Pinochet — the General was leading "an economic recovery that is absolutely fantastic," Hayek once enthused, in contrast to Iran, where the masses overthrew the Shah because they did not yet comprehend "the moral conception on which capitalism rests" (quoted in Geddes, 1979). "You can have economic freedom without political freedom," Hayek clarified, "but you cannot have political freedom without economic freedom" (quoted in Geddes, 1979). Hayek never actually saw himself as an economist. His true passions were biology and psychology. The work that first brought him international notoriety — the legendary battles with Keynes — was a necessary distraction to earn a living. When he was only 21, Hayek had been shaken by a "sudden flash of insight" that connected his "family background in biology to social and philosophical issues" (Hayek, 1982, p. 287). After serving as an artillery officer in the Great War, Hayek enrolled at the University of Vienna — only to find frustration with the "painful" lectures of aging philosophers who had been assigned to teach psychology. Hayek went to the library and taught himself, finding inspiration in nineteenth-century theorists who were either "long out of fashion," "long dead," or both. There he found his cyborg manifesto: evolution is

not just the intergenerational transformation of physical anatomy, but also a "psycho-social"

process of infinitely adaptive changes in cognition, communication, and consciousness. "[T]he

world of our mental qualities provide[s] us with an imperfect generic map" of an external world,

Hayek (1982, p. 288) later explained of his epiphany in 1920; the cognitive symbolic

representations of a "mental universe" serve "to guide us more or less successfully in our

environment." "Mental events" are a "subsystem of the physical world" that correlates "the

larger subsystem of the world that we call an organism" through a dynamic interface "with the

whole system so as to enable that organism to survive" (Hayek, 1982, p. 288). The architecture

of the "system of relations between all the neurons" of individual human brains "through which

impulses are passed" in "a process of continuous and simultaneous classification and

reclassification" controls not only the perception of external stimuli, but also all other kinds of

"mental entities" of internal human consciousness — all "emotions, concepts, images, drives,

etc., that we find to occur in the mental universe" (Hayek, 1982, p. 289). Hayek's philosophy is,

quite literally, a "pure" theory of capital and cybernetic consciousness, a fusion of biological,

economic, and informational determinism in the simultaneous evolution of money and mind.

Every facet of human thought that we might value — logic, reason, generosity, free will, love —

is nothing more than the product of "a continuous stream of impulses" correlating external

stimuli and internal mental entities through a neurological matrix "in which the state of the

organism changes from one set of dispositions to interpret and respond to what is acting on it and

in it, to another such set of dispositions" (Hayek, 1982, p. 291). In a symposium with admiring

psychologists in the spring of 1977 at Penn State, Hayek exposed the clear connections between

the "universalizing ideologies" of nineteenth-century associationist psychology and the twenty-

first century "positivist, technoscientific" neoliberal urbanism that is so pervasive today

(Brenner, 2018, p. 571); Walter B. Weimer, the psychologist hosting the conference, asked Hayek about parallels between his view of complexity and that of John Von Neumann. "I wasn't aware of his work, which stemmed from his involvement with the first computers," Hayek (1982, p. 322) admitted; but after expanding his student notes from 1920 into the book *The Sensory Order* in 1952 — von Bertalanffy read and commented on a first draft — Hayek explained, "I met John Von Neumann at a party, and to my amazement and delight, he immediately understood what I was doing and said that he was working on the same problem from the same angle" (quoted in Weimer and Palermo, 1982, p. 322). Von Neumann's theory of self-reproducing automata, and Hayek's view of market relations as a collective mind integrating the scale of individual neurons with the trans-historical, trans-human scale of the history of global capitalism, manifest the same logic of today's Silicon Valley informational-imperialist "monopolists of mind" that "have already succeeded in their goal of altering human evolution" (Foer, 2017, p. 8). For anyone who believes that evolution yields any kind of teleology of inevitable growth, development, progress, improvement, or success, internet connectivity is the accelerant of species-wide human advancement. And yet it's also the architecture of divisive hierarchies of human difference — of competitive algorithmic circuits of valorization and de-valorization of systems within systems of money and meaning.

Queer Eigenvalues

We can see some of the complexity of these conspiratorial dynamics if we deploy the workhorse methodology of the urban systems paradigm, which arguably reached its zenith in the detailed factorial ecologies of neighborhoods across the Chicago metropolitan region in Berry and Kasarda's (1977) *Contemporary Urban Ecology*. Not insignificantly for our purposes, this

heyday of urban systems factor analysis coincides with Dawkins' (1976) formulation of the

"meme" as a self-replicating unit of cultural communication — a tune, catch-phrase, fashion,

image, or idea — that propagates by leaping from brain to brain. "When you plant a fertile

meme in my mind you literally parasitize my brain," the neuropsychologist N.K. Humphrey

wrote in a commentary on Dawkins' (1976, p. 198) first draft of the meme chapter, "turning it

into a vehicle for the meme's propagation in just the way that a virus may parasitize the genetic

mechanism of a host cell." Four decades later, Christopher Wylie, portrayed by the *Times* as "a

pink-haired, nose-ringed oracle sent from the future to explain data" (Barry, 2018), struggled to

convey the methodological subtleties of how Cambridge Analytica measured the circulation of

memes to target and manipulate the anxieties and anger of American voters. At one point in

testimony before the British House of Commons Select Committee on Culture, Wylie lamented

the absence of "a robust technical background" among lawmakers and staff investigators. "I

have had to explain and re-explain and re-explain and re-explain, you know, how relational

databases work, what is an eigenvector, what is dimensional reduction," Wylie said. While we

do not have access to the kinds of massive relational databases Wylie showed to Steve Bannon as

they were discussing Foucault and Judith Butler, it is possible to gain insight from a smaller,

publicly available source — the panel surveys of the American National Election Studies

(ANES), which have been conducted in various forms since 1948. The pilot study for the 2016

cycle was fielded in January, at the beginning of a primary race when Trump was universally

regarded as an impossible long shot amidst a field of sixteen other contenders for the Republican

nomination. The survey was conducted only weeks after Trump had spent a full thirty minutes

in an enthusiastic live-stream interview with the conspiracy entrepreneur Alex Jones, whose

YouTube channel had by then racked up more than two billion views. This was also the

immediate aftermath of a speech in Grand Rapids, Michigan, where Trump told the crowd that

Hillary Clinton got "schlonged" in her 2008 primary run against Obama; immediate press

coverage included gems like the *Washington Post*'s "Donald Trump's 'Schlonged': A Linguistic

Investigation," which featured earnest quotes from the evolutionary psychologist Steven Pinker

on the proliferation of "onomatopeoic synonyms for 'defeat'," and then angry reader responses

in which Trump's critics were all too easily trolled — sharpening the weapons of misogynist

language such that within a few days, NPR was including "schlonged" in a list of candidates for

"words of the year." Applying Berry and Kasarda's (1977) principal factor analysis and varimax

rotation to the ANES surveys, conducted with a random sample of U.S. citizens age 18 and over

drawn from the YouGov panel, distills more than five dozen attitudinal measures to a sixteen-

factor solution where cumulative eigenvalues capture two-thirds of total variance (Table 1).

Rotated eigenvector factor loadings highlight several familiar dimensions of American anti-

urbanism and cultural politics. The leading factor underscores 'mainstream' Republican

enthusiasm for those regarded at the time as viable nominees — including Ted Cruz, who as a

teenager made a bit of money giving Rotary Club speeches on Hayek's philosophy, and Ben

Carson, the neurosurgeon who has told audiences that the human brain is so complex that it

could only have been designed by God; note the loadings of +0.74 or higher for Cruz and Carson

as well as Jeb Bush, Marco Rubio, and Carly Fiorina. This conservative consensus is joined,

unsurprisingly, with hostility to Obama (-0.32) and pro-police attitudes (+0.34), as well as

enthusiasm for Trump — but as a media and pop culture figure, not necessarily as a viable

candidate (note the 'preferred candidate' loading of zero). Progressivism is most clearly

highlighted by Factor III, with positive attitudes towards feminists (+0.57), gays and lesbians

(+0.83), transgender people (+0.87), and Muslims (+0.52), all moderately correlated with

Table 1. Factorial Ecology of American Trumpian Consciousness, early 2016.

| | | Loadings from Varimax Factor Rotation | | |
Variable	Description	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	Communality
rxtrump1	Trump is Preferred Candidate	0.00	0.01	-0.04	**0.81**	0.05	-0.04	-0.12	0.05	0.11	-0.04	-0.01	0.07	-0.05	-0.03	0.10	-0.04	0.71
fttrump	Feeling thermometer: Donald Trump	**0.38**	0.14	-0.11	**0.74**	0.05	0.07	-0.15	0.03	0.14	-0.03	-0.02	0.05	-0.06	0.02	0.03	-0.02	0.78
ftpolice	Feeling thermometer: the police	**0.34**	0.09	0.03	0.06	-0.08	0.15	-0.25	**0.53**	0.03	-0.08	0.01	0.19	0.05	-0.14	0.09	-0.16	0.60
ftfem	Feeling thermometer: feminists	-0.16	-0.17	**0.57**	-0.17	0.02	-0.28	0.19	0.22	-0.14	-0.06	-0.03	-0.01	0.01	-0.02	-0.01	-0.11	0.61
fttrans	Feeling thermometer: transgender people	-0.07	-0.10	**0.87**	-0.11	-0.11	-0.11	-0.01	0.09	-0.04	-0.02	0.04	-0.07	0.04	-0.05	0.00	-0.01	0.83
ftmuslim	Feeling thermometer: Muslims	-0.01	-0.11	**0.52**	**-0.37**	-0.26	-0.13	0.20	0.22	-0.03	0.01	0.03	-0.24	-0.06	0.00	0.06	-0.10	0.66
ftsci	Feeling thermometer: scientists	-0.01	-0.20	0.20	-0.06	-0.04	**-0.30**	0.01	**0.58**	-0.06	-0.09	-0.19	-0.02	0.07	-0.07	-0.13	0.20	0.62
ftblack	Feeling thermometer: Black people	0.02	-0.15	**0.31**	-0.14	**-0.36**	-0.01	0.30	**0.55**	0.04	0.07	-0.02	-0.05	-0.09	0.08	0.04	-0.11	0.70
ftwhite	Feeling thermometer: White people	0.06	-0.03	0.15	0.16	0.08	-0.02	-0.15	**0.73**	0.00	-0.01	-0.09	0.14	-0.02	0.02	0.08	-0.13	0.66
fthisp	Feeling thermometer: Hispanics	0.10	-0.10	**0.32**	-0.28	-0.28	-0.03	0.05	**0.58**	0.02	0.00	**0.35**	-0.08	-0.04	0.05	-0.08	-0.03	0.76
ftgay	Feeling thermometer: gays and lesbians	-0.08	-0.16	**0.83**	-0.07	-0.09	-0.07	-0.09	0.17	-0.08	-0.04	-0.04	-0.06	0.06	-0.01	-0.06	0.02	0.79
ftobama	Feeling thermometer: Barack Obama	**-0.32**	-0.18	0.26	**-0.42**	-0.07	**-0.39**	**0.45**	0.06	-0.05	0.00	0.11	-0.03	0.01	-0.10	0.06	0.03	0.77
fthrc	Feeling thermometer: Hilary Clinton	-0.27	-0.14	0.27	**-0.32**	0.03	**-0.39**	**0.46**	0.14	-0.10	-0.10	0.09	0.10	0.02	-0.13	0.04	-0.02	0.71
ftjeb	Feeling thermometer: Jeb Bush	**0.74**	0.00	-0.02	-0.06	-0.06	-0.19	-0.03	0.04	-0.06	-0.13	0.01	0.05	0.07	-0.08	0.08	-0.10	0.65
ftcarson	Feeling thermometer: Ben Carson	**0.79**	0.12	-0.10	0.11	-0.03	0.26	0.00	0.08	0.09	-0.02	-0.09	0.00	-0.08	0.09	-0.04	-0.01	0.77
ftrubio	Feeling thermometer: Marco Rubio	**0.85**	0.09	-0.07	0.04	-0.01	0.05	-0.08	0.03	0.03	-0.07	0.05	0.02	0.04	-0.03	0.00	-0.01	0.76
ftcruz	Feeling thermometer: Ted Cruz	**0.78**	0.16	-0.09	0.16	0.02	0.28	-0.01	0.05	0.07	-0.07	0.04	0.06	-0.04	0.08	0.02	0.05	0.78
ftsanders	Feeling thermometer: Bernie Sanders	-0.11	-0.22	**0.40**	-0.26	-0.09	**-0.45**	0.12	0.10	-0.10	0.15	-0.02	-0.17	-0.02	-0.05	0.12	0.05	0.60
ftfiorina	Feeling thermometer: Carly Fiorina	**0.85**	0.08	0.01	0.05	0.00	0.15	-0.01	0.00	0.04	-0.02	-0.01	0.02	-0.04	-0.01	0.01	0.03	0.76
z_male	Male	0.02	0.08	-0.15	-0.03	-0.02	0.03	0.03	-0.10	0.13	-0.08	-0.03	-0.08	-0.15	0.07	-0.09	**0.69**	0.58
z_rwhite	Non Hispanic White	0.01	0.03	0.00	0.09	0.01	0.04	**-0.65**	0.13	-0.03	0.08	**-0.63**	-0.04	0.01	-0.04	0.01	0.02	0.85
z_rblack	Non Hispanic Black	-0.04	-0.07	-0.01	-0.09	-0.04	-0.02	**0.85**	-0.09	0.02	-0.07	-0.07	0.09	0.03	0.06	0.04	-0.03	0.78
z_rhispn	Hispanic	0.00	-0.04	-0.02	-0.06	0.03	-0.06	-0.03	-0.05	0.01	-0.05	**0.92**	-0.01	-0.05	0.00	0.01	-0.03	0.86
z_ramer	Being American extremely important to identity	0.10	-0.01	-0.11	0.14	0.05	0.15	-0.04	0.12	0.06	0.01	-0.15	**0.73**	-0.03	-0.08	0.01	0.01	0.65
z_rrace	Race extremely important to identity	-0.07	-0.03	-0.08	0.07	0.19	-0.05	0.27	-0.02	-0.05	0.07	0.16	**0.68**	-0.01	0.05	0.01	-0.03	0.63
z_born	Identifies as Born Again	0.20	0.08	-0.29	0.06	0.08	0.00	0.21	0.11	0.21	-0.05	-0.01	0.01	-0.06	0.02	**-0.33**	**-0.55**	0.65
z_ndblk	Little or no discrimination against Blacks	0.10	**0.75**	-0.03	0.08	0.04	0.08	-0.17	-0.06	0.00	0.03	-0.05	0.05	-0.04	0.03	-0.01	0.01	0.63
z_ndhsp	Little or no discrimination against Hispanics	0.10	**0.73**	-0.06	0.13	0.03	0.02	-0.08	-0.05	-0.04	-0.10	-0.13	0.02	-0.07	0.01	-0.09	0.01	0.62
z_ndgay	Little or no discrimination against gays and lesbians	0.11	**0.81**	-0.10	0.05	0.03	0.14	0.07	-0.03	0.03	0.00	0.02	-0.06	-0.05	0.04	0.03	0.05	0.73
z_ndtrn	Little or no discrimination against transgender people	0.04	**0.79**	-0.14	0.00	-0.02	0.13	0.05	-0.02	0.04	0.08	0.03	-0.06	-0.07	0.04	0.05	-0.01	0.69
z_ndmus	Little or no discrimination against Muslims	0.05	**0.74**	-0.08	0.00	0.05	0.13	-0.02	-0.01	0.07	-0.03	0.05	0.04	-0.02	0.00	0.00	0.01	0.58
z_discw	A great deal or a lot of discrimination against White people	0.01	0.04	-0.04	0.13	0.12	0.08	-0.09	-0.04	**0.78**	0.05	-0.02	0.05	0.08	-0.01	0.08	0.04	0.69
z_discm	A great deal or a lot of discrimination against men	-0.01	0.06	-0.04	0.02	0.08	0.09	0.09	-0.01	**0.82**	-0.06	0.06	0.03	0.00	0.05	-0.03	0.09	0.72
z_discc	A great deal or a lot of discrimination against Christians	0.20	-0.02	-0.28	0.12	0.09	0.22	0.03	0.13	**0.58**	0.08	-0.08	0.02	-0.06	-0.01	0.03	-0.15	0.59
z_lazyb	Most Blacks could be described as lazy	-0.09	0.13	-0.03	0.09	**0.71**	0.07	-0.13	-0.04	0.01	0.01	0.14	0.11	0.06	0.05	0.02	-0.01	0.59
z_lazyh	Most Hispanics could be described as lazy	-0.01	-0.03	0.01	0.04	**0.53**	0.03	0.08	-0.09	0.13	0.14	-0.07	-0.08	-0.14	0.03	**0.48**	-0.14	0.62
z_lazym	Most Muslims could be described as lazy	0.05	0.07	-0.06	0.11	**0.42**	0.02	0.06	0.08	0.11	0.18	0.06	-0.01	-0.10	-0.01	**0.59**	0.01	0.61
z_vlntb	Most Blacks could be described as violent	-0.01	0.04	-0.09	0.03	**0.78**	0.04	-0.08	-0.06	0.02	0.01	0.03	0.16	0.05	-0.02	-0.10	-0.01	0.67
z_vlnth	Most Hispanics could be described as violent	0.02	-0.06	-0.02	0.03	**0.69**	-0.05	0.14	-0.09	0.10	-0.02	-0.16	-0.01	-0.11	0.02	0.04	-0.09	0.57
z_vlntm	Most Muslims could be described as violent	0.02	0.02	-0.24	0.29	**0.61**	0.02	-0.03	0.11	0.18	0.06	0.03	0.12	0.09	0.02	0.03	0.16	0.62
z_immig	Legal immigration should be decreased a lot	-0.01	0.10	-0.17	**0.37**	0.18	0.04	0.15	0.04	0.05	**0.38**	0.00	0.13	0.09	-0.11	-0.03	0.19	0.45
z_lpres	Not at all Pleased about possibility of Latino President	-0.20	0.08	-0.14	**0.47**	0.16	0.00	0.19	-0.09	-0.08	0.21	-0.22	0.09	0.03	0.01	-0.06	-0.07	0.47

z_pc	People are far too easily offended	0.25	0.14	-0.12	0.29	0.08	**0.38**	-0.19	0.12	0.12	0.20	-0.13	0.01	0.04	0.01	-0.20	0.23	0.55
z_terr	Extremely or Very Worried about Terror Attack	0.20	0.02	-0.06	0.17	0.16	0.03	-0.06	0.05	0.24	0.12	0.01	**0.45**	-0.03	0.03	0.03	-0.14	0.40
z_trad	Strongly Oppose Free Trade	-0.10	0.05	0.02	0.11	0.24	0.07	-0.01	-0.04	0.04	**0.31**	0.02	-0.11	-0.14	0.01	**-0.59**	-0.03	0.57
z_oppty	No opportunity for average American	-0.06	0.00	-0.06	-0.02	-0.01	-0.03	-0.06	0.02	0.01	**0.75**	0.00	0.13	0.02	0.08	0.07	-0.05	0.61
z_ladd	Much harder than parents to move up the ladder	-0.19	-0.06	0.05	0.05	0.04	-0.03	-0.08	-0.09	0.02	**0.73**	-0.07	-0.05	-0.01	0.03	-0.08	-0.03	0.61
z_warm	Global Warming Probably Not Happening	0.10	0.13	-0.06	0.01	0.05	**0.66**	-0.05	-0.09	0.07	-0.09	0.05	0.10	-0.03	0.07	0.07	-0.07	0.52
z_wgd	Global Warming Would be Good	0.10	0.01	0.15	-0.04	-0.01	-0.15	-0.08	-0.27	**0.39**	0.03	0.15	0.19	**-0.40**	0.26	-0.05	-0.01	0.57
z_wnt	Global Warming Would be Neither Good nor Bad	0.10	0.11	-0.11	0.00	-0.02	**0.70**	0.05	-0.01	0.10	-0.02	-0.11	-0.04	0.23	-0.01	0.09	0.01	0.61
z_wcn	Global Warming Mostly Natural	0.15	0.17	-0.16	0.06	-0.02	**0.46**	-0.06	-0.03	0.05	-0.05	0.03	0.09	**-0.65**	0.11	0.02	0.03	0.75
z_wce	Global Warming Equally Human and Natural Caused	0.08	-0.14	0.02	-0.03	-0.01	0.10	-0.02	-0.05	0.07	0.01	-0.02	0.02	**0.83**	0.04	-0.01	-0.09	0.75
z_wdo	Govt should be doing great deal less on Global Warming	0.15	0.18	-0.08	0.04	0.03	**0.67**	-0.06	0.04	0.05	0.08	-0.02	0.02	-0.26	-0.02	-0.20	0.10	0.65
z_vac1	Moderately or Strongly Oppose Vaccination	0.03	0.06	-0.06	-0.07	0.02	0.17	-0.01	-0.01	-0.07	0.11	-0.04	-0.12	-0.11	**0.76**	-0.08	0.02	0.68
z_aut	Vaccines Cause Autism	-0.03	0.06	-0.01	0.09	0.03	-0.05	0.06	0.00	0.12	-0.01	0.05	0.09	0.06	**0.81**	0.07	0.04	0.71
z_birth	Birther	0.13	-0.02	-0.15	**0.52**	0.15	0.12	-0.25	-0.11	0.06	-0.03	0.05	0.16	-0.07	0.24	-0.05	-0.20	0.56
z_bcit	Extreme Opposition to Birthright Citizenship	0.12	0.16	-0.15	**0.46**	0.14	0.27	0.06	0.05	0.04	0.19	-0.08	0.11	0.02	-0.09	-0.18	0.18	0.51
Eigenvalue proportion		16.8	7.82	5.69	4.82	3.88	3.61	3.10	2.84	2.58	2.49	2.31	2.21	2.07	1.92	1.81	1.78	
Cumulative proportion		16.8	24.6	30.3	35.1	39.0	42.6	45.7	48.6	51.1	53.6	55.9	58.2	60.2	62.1	64.0	65.7	

Loadings ≥ |0.30| shown in bold; loadings ≥ |0.40| shown in bold and slightly larger font.

Data Source: Microdata files for the 2016 Pilot Study for the American National Election Studies, Stanford University & University of Michigan.

enthusiasm for Bernie Sanders (+0.40). Several factors capture the intensification of revanchist ethnocultural attitudes. Factor II highlights discrimination denialism — with strong loadings for assertions that there is little or no discrimination against Blacks, Hispanics, gays and lesbians, transgender people, and Muslims. Factor V detects ethnocultural stereotypes — tightly intercorrelated and contradictory views of Blacks, Hispanics, and Muslims as alternately or simultaneously lazy or energetically violent. Factor IX, by contrast, reveals the reactionary intersectionality of those who claim that discrimination now oppresses men, White people, and Christians — a resentment that is now correlated with the defiant assertion that global warming would be a good thing. Factor XII reveals a tight nexus linking racial identity with American nationalism and anxieties over terrorism (with a weaker but still notable -0.24 loading signifying anti-Muslim attitudes). The contours of Trumpism were becoming clear even at this early stage of the primaries in January of 2016, driven by the quintessentially Hayekian disinformation of racist Social Darwinism — the 'birthers' inspired by Trump's incessant tweeting to suggest that Obama's birth certificate was a forgery. Fully one-third of the ANES respondents believe this lie, which is enmeshed with opposition to birthright citizenship, anxiety about immigration and the possibility of an Hispanic President, and hostility to Muslims, Obama, and Clinton.

Yet there are some surprises in these results. Anti-vaccination attitudes appear in a separate, distinct factor — 6.8 percent of respondents oppose mandatory vaccination for public school children, and 12 percent believe vaccines cause autism — with no detectable correlation to any other dimension of cultural or political division. Racial and gender identity do not correlate in any clear way with most of the sociocultural divisions: the White/Black binary of racial identity is linked to polarized attitudes towards Obama and Clinton (Factor VII), as expected, while Factor XI detects a White/Hispanic divide. Yet individual ethnoracial identities

do not post significant loadings on any other factor. Similarly, 'male' posts no significant

loading on any of the substantive factors capturing varied sociocultural attitudes — with the

exception of Factor XVI, where, somewhat unexpectedly, males are negatively correlated with

those identifying as born-again Christians. Nevertheless, other correlations that would seem

illogical when viewed through a positivist, rationalist lens are now quite familiar in U.S. politics.

Climate denialism, for example, is now deeply embedded in the wider culture wars. Assertions

that global warming would be a good thing are correlated with convictions that Whites,

Christians, and men are oppressed (Factor IX); the notion that global warming would be neither

good nor bad is correlated not only with hostility to Obama, Clinton, Sanders, and scientists, but

also with the generalized backlash against political correctness (note the +0.38 loading for

'people are far too easily offended') (Factor VI).

When all of these diverse and contradictory sentiments are forced into the binary choice

of electoral politics, a stark profile appears for the 24 percent share of respondents who named

Trump as the preferred Republican candidate (Table 2). The prototypical Trump supporter hates

Obama, believes Obama's birth certificate is fraudulent, is anxious about terrorism and a Latino

President, and equates Islam with violence. He *or she* (note the insignificant gender parameter)

believes global warming would be a good thing, is opposed to birthright citizenship, and is

concerned about discrimination against White people. Those who say that there is little

discrimination against gays and lesbians are, all else constant, 1.82 times more likely to support

Trump. Contradictorally, however, after controlling for the revanchist backlash against gays and

lesbians and all other attitudes, the same does not hold for those who deny discrimination against

transgender people (who are only 0.51 times as likely to support Trump). Such intersectional

complexities are now a key feature of American cultural and political evolution, perhaps

Table 2. Logistic Regression of Supporters of Trump as Preferred Republican Candidate, January 2016.

Variable	Description	Paramter estimate	Odds Ratio	Tolerance Value
Intercept	Intercept	-2.156 ***		
ftpolice	Feeling thermometer: the police	0.190	1.209	0.57
ftfem	Feeling thermometer: feminists	-0.121	0.886	0.47
fttrans	Feeling thermometer: transgender people	0.244	1.276	0.28
ftmuslim	Feeling thermometer: Muslims	-0.179	0.836	0.37
ftsci	Feeling thermometer: scientists	0.111	1.118	0.60
ftblack	Feeling thermometer: Black people	0.164	1.178	0.37
ftwhite	Feeling thermometer: White people	0.202 *	1.223	0.53
fthisp	Feeling thermometer: Hispanics	-0.162	0.851	0.35
ftgay	Feeling thermometer: gays and lesbians	-0.220	0.803	0.29
ftobama	Feeling thermometer: Barack Obama	-0.660 ***	0.517	0.23
fthrc	Feeling thermometer: Hilary Clinton	0.046	1.047	0.30
ftjeb	Feeling thermometer: Jeb Bush	0.028	1.029	0.50
ftcarson	Feeling thermometer: Ben Carson	-0.153	0.858	0.31
ftrubio	Feeling thermometer: Marco Rubio	-0.106	0.899	0.35
ftcruz	Feeling thermometer: Ted Cruz	0.260 *	1.297	0.29
ftsanders	Feeling thermometer: Bernie Sanders	-0.048	0.953	0.44
ftfiorina	Feeling thermometer: Carly Fiorina	-0.148	0.863	0.34
z_male	Male	-0.031	0.970	0.84
z_rwhite	Non Hispanic White	0.290	1.337	0.23
z_rblack	Non Hispanic Black	-0.554	0.575	0.29
z_rhispn	Hispanic	-0.034	0.966	0.33
z_ramer	Being American extremely important to identity	0.088	1.092	0.66
z_rrace	Race extremely important to identity	0.044	1.045	0.66
z_born	Identifies as Born Again	-0.155	0.857	0.77
z_ndblk	Little or no discrimination against Blacks	-0.393 *	0.675	0.51
z_ndhsp	Little or no discrimination against Hispanics	0.371	1.449	0.53
z_ndgay	Little or no discrimination against gays and lesbians	0.601 **	1.823	0.37
z_ndtrn	Little or no discrimination against transgender people	-0.673 **	0.510	0.40
z_ndmus	Little or no discrimination against Muslims	-0.289	0.749	0.57
z_discw	A great deal or a lot of discrimination against White people	0.477 *	1.612	0.55
z_discm	A great deal or a lot of discrimination against men	-0.004	0.996	0.57
z_discc	A great deal or a lot of discrimination against Christians	-0.090	0.914	0.59
z_lazyb	Most Blacks could be described as lazy	-0.062	0.940	0.54
z_lazyh	Most Hispanics could be described as lazy	0.410	1.506	0.64
z_lazym	Most Muslims could be described as lazy	-0.200	0.819	0.66
z_vlntb	Most Blacks could be described as violent	-0.251	0.778	0.50
z_vlnth	Most Hispanics could be described as violent	-0.269	0.764	0.61
z_vlntm	Most Muslims could be described as violent	0.678 **	1.970	0.48
z_immig	Legal immigration should be decreased a lot	0.033	1.034	0.73
z_lpres	Not at all Pleased about possibility of Latino President	0.778 ***	2.177	0.69

z_pc	People are far too easily offended	0.090	1.094	0.55
z_terr	Extremely or Very Worried about Terror Attack	0.484 **	1.622	0.74
z_trad	Strongly Oppose Free Trade	-0.108	0.898	0.81
z_oppty	No opportunity for average American	-0.079	0.924	0.78
z_ladd	Much harder than parents to move up the ladder	0.197	1.217	0.71
z_warm	Global Warming Probably Not Happening	0.220	1.246	0.65
z_wgd	Global Warming Would be Good	0.702 *	2.018	0.73
z_wnt	Global Warming Would be Neither Good nor Bad	-0.179	0.836	0.61
z_wcn	Global Warming Mostly Natural	-0.499 *	0.607	0.42
z_wce	Global Warming Equally Human and Natural Caused	-0.739 ***	0.478	0.59
z_wdo	Govt should be doing great deal less on Global Warming	-0.813 ***	0.444	0.54
z_vac1	Moderately or Strongly Oppose Vaccination	-1.041 **	0.353	0.74
z_aut	Vaccines Cause Autism	0.197	1.218	0.77
z_birth	Birther	0.735 ***	2.086	0.60
z_bcit	Extreme Opposition to Birthright Citizenship	0.494 **	1.639	0.63

Nagelkerke max rescaled pseudo-R squared	0.41
Percent concordant	82.5
Number of observations	1,154

*Parameter significant at P<0.10; **P<0.05; ***P<0.01.

Data Source: 2016 ANES Pilot Study, microdata files.

signified most clearly by Caitlyn Jenner's early support for Trump: "I'm a Christian, I'm also a Republican, and I'm also trans," Jenner explained to Jennifer Finley Boylan (2017) after being one of the few recognizable Hollywood celebrities to attend the Inauguration; "My faith played a very big role in what I'm doing." Boylan (2017) cites a friend who compares queer Republicans to "the pig in the chef's hat and apron holding a fork and knife on the front of a sign for a barbecue joint. Surely that pig must know that things aren't going to end well." And yet Gallup surveys indicate that at least a fifth of all LGBTQ Americans lean Republican.

Fauci-ism Evolves

> "Who can use the term 'gone viral' now without shuddering a little? ... Who among us is not a quack epidemiologist, virologist, statistician, and prophet? Which scientist or doctor is not secretly praying for a miracle? Which priest is not — secretly, at least — submitting to science?"
>
> Arundhati Roy (2020)

The #FauciFraud and "Bill Gates of Hell" conspiracies are by no means the first strains of paranoia in America's strange anti-urban political consciousness. Yet Covid-19, the first pandemic of the planetary urban age, is also the first pandemic of the "smart city" era of algorithmically accelerated lives and cybernetic, memetic afterlives. Projections of the point at which the dead will outnumber the living on Facebook (Öhman and Watson, 2019) co-evolve with narratives of 5G as "the nervous system of the true digital society" (Soldani and Manzalini, 2014) and the "Hang Fauci" signs at "Reopen Now" rallies and death threats that necessitated Fauci's security detail. The pop-culture media-metaphor acceleration of the present — the

Trump Administration's Trekkie "Operation Warp Speed" vaccination development program —

co-evolves with the accumulated contradictions of a half-century of cybernetics. "One of the

great ironies of smart cities," Michael Batty (2020, p. 506) observes, "is that the very computers

that for 50 years we have used to simulate the city are now being embedded in its fabric" —

creating a tautological circuitry where we simulate "the very systems we are trying to plan and

understand with the same machines that compose the systems we are simulating." As the science

historian George Dyson (2012) reminds us, when people first got access to the powers of stored-

program computers through the innovations of von Neumann's engineers at the Institute for

Advanced Study in New Jersey in the early 1950s — at the precise moment when Hayek was

strengthening the neuro-psychological foundations for an "orthodox information theory" at

Chicago (Mirowski and Nik-Khah, 2017) — the immediate result was that stored-program

computers also got access to the ideas and creativity of ever greater numbers of people.

Parallel urban systems are evolving, as the hierarchical dynamics of material, embodied

human settlement are intertwined with the post-material experiences delivered to human nervous

systems through the infrastructures of "cognitive capitalism" (Moulier-Boutang, 2011) and the

competitive pursuit, mobilization, and monetization of mental concentration and the human

attention span. We are all now living in the "full Hayek," with the evolutionary memetic dangers

of the axiom prioritizing infinite flows of information whose veracity can only be discerned

through an omniscient — and truly, ruthlessly disembodied — transhuman phenomenon of

market competition. More data do not guarantee more knowledge, intelligence, or wisdom. Bill

Gates' "We're Not Ready" TED talk racked up more than 25 million views in March and April,

2020, at the precise moment when half of Fox News viewers believe Gates is using a coronavirus

vaccine as a pretext to implant microchips into Americans in the plan to impose global eugenic biosurveillance (Hall, 2020).

Oswin is absolutely correct — embodiment is a life and death matter — and one of the more poignant reminders of Butler's analysis of humanity's porous, interdependent existence came with the death of Larry Kramer at the end of May. Speaking with a *Times* correspondent on his cell as he went through a Covid fever-check on his way into the White House, Fauci "recalled some of his fondest memories of his friend" (McNeil, 2020). "How did I meet Larry?" Fauci reflected; "He called me a murderer and an incompetent on the front page of the *San Francisco Examiner* magazine." And yet for three decades, the world's most famous AIDS activist would routinely, publicly attack the world's most famous AIDS researcher in front of audiences of thousands or millions, and then privately call to apologize; "...he'd say, 'Oh, I didn't really mean it. I just wanted to get some attention.'" Action — true performativity — required the militant mobilization of attention. Anthony Fauci, educated by the Jesuits (College of the Holy Cross, Class of 1962) in a "strange" blend of medical training, "philosophy, metaphysics, philosophical psychology, ethics, [and] epistemology" (quoted in Roberts, 2020) and specialist on the affinity of antibodies and their biologic activities, looked past the confrontational rhetoric of the crowds chanting "Fuck You, Fauci!" and found an affinity through embodied urban experience. "They were all New York guys. I had a little affinity to them because I'm a New Yorker. And I said, What would I do if I were in their shoes? And it was very clear: I would have done exactly the same thing" (quoted in Specter, 2020, p. 41). "I looked at them, and I saw people who were in pain," he once told an interviewer for *Holy Cross Magazine*. At one point in 2001, the very vulnerabilities of Kramer's embodiment became the subject of national public debate: Fauci's help getting Kramer a liver transplant in the aftermath

of hepatitis B and HIV medication side effects was a controversial allocation of an extremely scarce human organ to someone whose age (then 66) and HIV status implied a short life expectancy.

Butler's prophetic warnings of a planetary pandemic re-scaling the hierarchical differentiation of human lives, identities, and positionalities underscore the informational contradictions of America's strange fusion of neoliberal political theology. Kramer made it to 84 — almost twice as old as he was in August of 1980, when he first began encountering friends in Greenwich Village devastated by mysterious, persistent illnesses even as he himself felt so old that "he didn't have the long nights in him anymore" to be part of the adventurous nightlife on Fire Island. That summer at the beach Kramer was shunned anyway because of his recent anti-promiscuity novel, which had been banned from the shelves of Manhattan's only gay bookstore (Shilts, 1987, p. 26). Kramer quickly became a "gaycon" pariah. He embodied a gay-conservative queering of queer theory, a polemicist uneasily stradding "the roles of activist, journalist, community spokesperson, and rabble-rouser," mobilizing rhetoric and direct-action campaigns in ways that de-essentialized queerness and disconnected it "from any particular referent" — instead refiguring "queer" as "the undecidability from which rhetorical agency is activated" (Rand, 2008, p. 300, 298-299). That same month, the U.S. Presidential race came down to three self-identified evangelical Christians (Jimmy Carter, John B. Anderson, and Ronald Reagan), and The Gipper spoke to an audience of 10,000 pastors at a "national affairs briefing" in Dallas, proclaiming that "Religious America is awakening, perhaps just in time for our country's sake." The climate for the Dallas conference had been "created largely on television," the *Times* reported, where the Reverend Jerry Falwell and a rising generation of fundamentalist televangelists "used sophisticated programming to develop huge new urban

audiences" and "to shape their far-flung congregations into a new political force" (Clendenin, 1980).

Reagan refused to utter the world "AIDS" through his entire first term, and the paradoxical powers of evolutionary contradiction became clear when born-again Reagan met Hayek in the Oval Office in late 1983, as Falwell led the Christian Right's portrayal of HIV as divine retribution, "a punishment for the freewheeling lifestyle of city dwellers, drug users, and, of course, the favorite boogeyman of the bigoted: homosexuals" (Roberts, 2020). "You reap the whirlwind," Falwell had once declared in a satellite hookup from his Lynchburg headquarters for an ABC documentary, *AIDS: The Anatomy of a Crisis*; "You cannot shake your fist in God's face and get by with it." Four decades later, Falwell's televangelism has been digitized in the revanchist cybernetic psychometrics developed by Cambridge Analytica's queer data scientists, and the #FauciFraud and 'Bill Gates of Hell' memes co-evolve with an ever-changing cognitive landscape of memetic contagion (Figure 2). Graphical artifacts like the first-order Gates-Fauci conspiracies shown in Figure 1, and the expanded networks to other memes past and present as shown in Figure 2, are not simply representations. They are best understood as evolutionary organisms — as Dawkins memes, but also as brief snapshots of the fast-changing neural correlational activities of what Hayek (1953, p. 55ff) understood as "the nervous system as an instrument of classification" while, as Berry (1969) understood, America's mechanical environments continue becoming electronic environments that provide the context for online lives as more facets of the urban experience are delivered directly to the human nervous system.

There are, to be sure, many alternative portals to the expanding, Hayekian informational consciousness of cognitive capitalism — Facebook's 2.6 billion, Twitter's 300 million, the 1 billion on TikTok, the niche MAGA Twitter alternative Parler, the innumerable "neo-Nazi-filled

"The Reverend Dr. Jerry Falwell 3.26.1982,"
at the City Club of Cleveland
7,223 views

Kennedy and Falwell - Liberty Baptist College 1983
2,945 views

"Dr Shiva Ayyadurai -MIT PhD:
HIV does not cause AIDS -
Gallo & Fauci #FakeScience
crimes to humanity"
1,388 views

"Trump tours Ford Rawsonville Motor Plant"
Fox Business
83,086 views

"The next outbreak? We're not ready | Bill Gates"
TED
29,100,743 views

"WarRoom LIVE-1: Descent into Hell: Xi and the
Death Sentence of Wuhan
CCPVirus Coronavirus COVID-19"
The Epoch Times
9,790 views

"French Virologist Who Discovered HIV
Says Coronavirus Originated In A Lab"
Crux
26,037 views

"Consequences for China? | News on The 700 Club,
April 20 2020"
CBN News
100,218 views

"FULL Event: Donald Trump's
HUGE RALLY in Charleston
WV (5-5-16)"
Right Side Broadcasting
368,370 views

"Dr. Ben Carson stopped by
to chat with Diamond and Silk"
Diamond and Silk - The Viewers View
8,398 views

"Judy Mikovits PhD Exposes Dr. Fauci
For Corruption & Cover-Up"
15,689 views

"Lessons from porn industry could help
Hollywood adapt to coronavirus"
Reuters
302,446 views

"Judgment Is Executed on COVID-19: by Kenneth Copeland"
Kenneth Copeland Ministries
1,397,584 views

"USA: Chief US immunologist Fauci facepalms when Trump talks of deep state"
Ruptly
602,499 views

knockoffs of Reddit" (Atkins, 2020) that incubated the QAnon conspiracies of Deep State / globalist schemes connecting vaccine research to pedophilia and adrenochrome harvesting — and yet YouTube remains the largest. More than three hundred hours of video are uploaded to YouTube every minute and a billion hours are watched every day, yielding temporal compression/acceleration ratios of 18,000 and 41.6 million, respectively. As the largest portal, YouTube is the most 'mainstream,' the phenomenon most closely approximating a representative sample of the species-wide global information processor of collective human market cognition that Hayek envisioned — even as the mainstream is perpetually reconstructed through the sifting and sorting of peripheral, marginal, and 'extreme' memes. YouTube's audience formation processes thus expose the current transformations of time and space in "the arena of the most intense social and political confusions" in the distinctively American anti-urban urbanization of consciousness (Harvey, 1989, p. 229; see also Hackworth, 2019). The memetic cognitive correlations of 847.2 million views portrayed in Figure 2, therefore, must be regarded as a conservative underestimate of the magnitude of conspiratorial consciousness; the figure is a limited, static snapshot of an infinitely adaptive process of self-replicating, human-algorithmic hybridity of associations.

Gates-Fauci conspiracies continue to mutate, with Nation of Islam leader Louis Farrakhan delivering a July 4, 2020 address warning the peoples of Africa, "don't let them vaccinate you" in their plan to "depopulate the earth." Another variation on the "engineered" Covid crisis was spread by the vloggers Diamond and Silk, co-chairs of Black Voices for Trump and board members of Women for Trump; "I love Diamond & Silk, and so do millions of people," tweeted Trump, who had been an enthusiastic facn ever since they first got his attention with their YouTube performances beginning in December, 2015. Dr. Shiva Ayyadurai, a Senate

candidate in Massachusetts who claims to have invented email, attacks "Deep State 'Emperor Fauci'" with a style of performative intersectionality that would make gun-toting Jacqueline from Colorado blush. "As an MIT PhD in Biological Engineering who studies & does research nearly every day on the immune system," Ayyadurai tweets, "the #coronavirus fear mongering by the Deep State will go down in history as one of the biggest fraud to manipulate economies, suppress dissent, & push MANDATED medicine!" Meanwhile, the conspiratorial *Plandemic* documentary portrays a plot involving "accelerated viral evolution" to engineer the pathogen that became Covid-19. *Plandemic* features a discredited virologist, Judy Mikovitz, who falsely claims to have been part of the team that discovered HIV and to have worked with blood and saliva samples from patients of Dr. Luc Montagnier — and who now accuses Fauci of orchestrating vaccine cover-ups that have killed millions. The documentary was viewed more than 8 million times in its first week, amplified by QAnon groups and Facebook posts by a physician whose media fame derives from appearances on *Oprah*. As soon as YouTube began taking down copies of *Plandemic*, anti-vaxxers scrambled to edit it in diverse, subtle ways to evade the automated content enforcement software.

Montagnier himself embodied old and new circuits of urban competition and conspiracy — from the moment in the Harley Hotel in Manhattan in early 1985 when reporters began to understand the significance of the infinitesimally small genetic sequencing variations from prototype AIDS viruses from Montagnier's Pasteur Institute laboratory compared with the samples of Robert Gallo of the U.S. National Cancer Institute, to the tense hours and moments in early 1987 before Reagan's very first speech on AIDS. Dr. Jonas Salk had spent months in shuttle diplomacy between Paris and DC, negotiating between "the warring scientists like an ambassador at large" until Reagan and French President Jacques Chirac signed a settlement

crediting Gallo and Montagnier as "co-discoverers" of HIV; Salk's diplomacy helped avoid the

horrendous open-court publicity of a lawsuit that would have exposed how Gallo's purloined

work had been transformed "into political capital for the Reagan administration" (Shilts, 1987, p.

593). Montagnier would subsequently achieve notoriety with a theory of "DNA teleportation"

involving electromagnetic waves emitted by DNA. In the Spring of 2020 his clams that HIV and

malaria DNA fragments found in SARS-COV-2 provide evidence of a manipulated virus were

circulated not only through human journalists, but also through the semi-automated multimedia

segments of Crux, one of the online outlets of CNN-News18 out of Noida, Uttar Pradesh,

offering "Your daily dose of the big, viral, and relevant news in a few minutes." "Montagnier is

no conspiracy theorist," the auto-animated chyron assures viewers; "he is the co-discoverer of

the AIDS virus."

Only a few clicks away on YouTube's algorithmic suggestions, Steve Bannon's "War

Room: Pandemic" podcast, live from Capitol Hill, features a conversation with onetime CCP

member and fugitive real estate billionaire Miles Guo (also known as Guo Wengui and Miles

Kwok) suggesting that the coronavirus is a bioweapon developed in the Wuhan virology lab; the

chyron below their conversation alternates between "CHINA'S RISE IS OUR DEMISE" and

"COVID-19 COULD BE ROBOTS' TIME TO SHINE." Bannon first learned about Guo after

the real estate magnate, who had fled China after charges of bribery, money laundering, and

rape, launched an aggressive anti-CCP social media campaign on Twitter and YouTube. Guo's

sudden digital prominence led to an intense White House debate on whether to honor Beijing's

extradition request or Guo's application for political asylum. Bannon saw Guo as "an

intelligence asset," and after Bannon's excommunication from the Administration he began

meeting and broadcasting with Guo — from Dallas, from Guo's yacht, from Guo's $67 million

apartment overlooking New York's Central Park — in a partnership that connects Bannon's alt-right media tentacles reaching what he claims as "250 million English-speaking peoples across Latin America, Africa, the Middle East, Russia, and India" with Guo's broadcasts subtitled in Mandarin to "freedom fighters and freedom lovers in China."

Follow a few more algorithmic suggestions and you arrive at the prosperity gospel entrepreneur Kenneth Copeland out of Fort Worth, net worth over a quarter-billion: "In the name of Jesus ... I execute judgment on you Covid-19!" Copeland shouts in shut-eye prayerful rage; "I demand a vaccination to come immediately!" Copeland claims to have brought 122 million people to Christ, and he's only one of the digital Nicene Crede who will come again to judge the quick and the dead: hundreds of clips of the departed Jerry Falwell now compete with avatars of his son, the living Trump acolyte Jerry Falwell, Jr., as thumb-swipe MAGA netizens re-encode Reagan-era televangelism. Twenty years after Falwell, Sr., proclaimed in his *National Liberty Journal* that the antenna of the purple, gay-pride-colored character Tinky Winky was in the shape of a triangle — the gay pride symbol! — that made the BBC children's show *Teletubbies* a plot to pervert the children of America, Liberty University had become the second-largest provider of online education in the United States. Then Covid-19 forced the enrollment of nearly all of America into Zoom U. Hayek's early-1950s revelations at the Committee on Social Thought at Chicago are Zoom-bombed into twenty-first century coronavirus consciousness. At the crescendo of the #FauciFraud conspiracies in the late Spring of 2020, a poll by the University of Chicago Divinity School and the National Opinion Research Center found that 43 percent of born-again Protestants believe that the coronavirus is "God telling humanity to change how we are living." Days after the poll results were released, as the latest police killing of an unarmed Black man led to demonstrations in hundreds of cities in the largest

uprising since the Civil Rights Movement of the 1960s, police in riot gear violently cleared a path through peaceful protesters so that Trump — accompanied by the Chair of the Joint Chiefs of Staff in his combat fatigues — could walk from the White House across Lafayette Square to pose with a bible in front of St. John's Episcopal Church.

Trump eagerly embraced Nixon's 1968 "law and order" racist dog-whistle anti-urbanism, trumpeting a housing-policy reversal that would protect white people "living their Suburban Lifestyle Dream" from the threat of low-income housing while deploying troops to "dominate the streets" against Black Lives Matter protesters. Back in 2016, Trump's campaign had excavated the smartphone-silicon carbon consciousness of populist American false-consciousness nostalgia: the "TRUMP DIGS COAL" meme in his Charleston, West Virginia rally promising to bring back coal-industry jobs was part of a broader anti-urban ethnoracial and cultural-religious assemblage that flipped a 3-million popular vote loss into an Electoral College victory through three counties in rustbelt states. The lingering intergenerational American palimpsest shimmering between the agrarian eighteenth-century settler-colonial antebellum Constitution and the twentieth-century modernist industrial Fordist-Keynesian manufacturing centers that anchored the material prosperity of Berry's (1964) urban systems are now evolving into horrific new strains of YouTube cognitive Fordism. When Trump, sans face mask, toured the Rawsonville Ford Factory in Ypsilanti, Michigan the week before his militarized biblical photo-op, he veered off his prepared remarks for a brief history lesson. The company was "founded by a man named Henry Ford," Trump told executives, factory workers, and reporters; "Good bloodlines, good bloodlines. If you believe in that stuff, you got good bloodlines." Journalists immediately understood the implications of blood-and-soil praise for Henry's enthusiastic promotion of the conspiratorial *Protocols of the Learned Elders of Zion* — Hitler

was a Ford fan — an no amount of post-Goldwater-Rule psychiatric mental-health excuses could alter the panic amongst Trump campaign staffers back in 2016 only two weeks before the RNC in Cleveland. Trump had tweeted an image of Hilary atop a pile of cash with "Most Corrupt Candidate Ever!" written across a Star of David. Jason Miller, in his first week on the job as Communications Director, saw it and exclaimed "Holy Shit!" He couldn't reach Trump, who had gone golfing. Jared Kushner, heir to the garden-apartment-state wealth built by the "handful of immigrant Jewish families referred to as the 'Holocaust Builders' of the New Jersey suburbs," (Ward, 2019, p. 6) was offline for Shabbat. "Dude," Miller implored social-media manager Dan Scavino; "you have to take this thing down." "We never take things down," Scavino replied. Miller insisted, and they took down the post, only to have Trump return from the golf course and plead ignorance: "This looks to me like a sheriff's star" (Ward, 2019, p. 86). Responding to the controversy later, Kushner invoked his grandparents' experiences to insist that Trump was neither anti-Semitic nor racist — leading two of Kushner's cousins to reply on Facebook. "Thank you Jared for using something sacred and special to the descendants of Joe and Rae Kushner to validate sloppy manner in which you've handled this campaign," wrote Jacob Schulder. Schulder's father had been set up by Jared's father Charlie, in a ruse with a prostitute that was filmed as part of an extortion plot over family business struggles. Eventually, Fauci-ism connections in the networked consciousness of Chicago-School market logic and LA-School postmodern urbanism in the age of Stormy Daniels fuse in Reuters oddities like "Lessons from porn industry could help Hollywood adapt to coronavirus."

Look closely again at Figure 2. Imagine it in motion. This is just one brief glimpse of America's bizarre, endlessly-evolving anti-urban system of "smart gadgets, dumb humans" (Morozov, 2013).

Covid-Cognitive Urban Systems

The first global pandemic of the age of planetary urbanization and the smart-city era is explicitly, and dangerously, transforming the material realities and ideologies of evolution. All who are committed to any genuine understanding of social justice must "struggle against both a moral and viral illness working in lethal tandem, Butler (2020) reminds us. But while the virus seems to treat all of us humans equally "in a world of imminent threat," we humans are constantly discriminating amongst ourselves, "formed and dominated as we are by the interlocking powers of nationalism, racism, xenophobia, and capitalism." Distinctions of other kinds are advanced through progressive and radical commitments to multidimensional intersectionality. DNA and discourse now co-evolve in non-linear, multidimensional ways in online informational worlds that expand in combinatorically infinite ways — constrained by the limits of *individual* human cognition but asymptotically unleashed in the infinite networked potentialities of competing narratives, scientific findings, memes, deceptions, and conspiracies. Only a few weeks after Guo Wengui appears on Skype from his yacht to speak with Steve Bannon on Capitol Hill and holds up a printout of an email — "Wuhan Seafood Market pneumonia virus isolate Wuhan-Hu-1, Complete Genome" — a pair of geneticists compared updated data from the Covid-19 Host Genetics Initiative with information in an online database of Neanderthal genomes. Apparently, a segment of Chromosome 3 that raises the risks of severe Covid-19 symptoms matches a segment found in a Neanderthal who lived in Croatia some 50 thousand years ago, and is now carried by nearly two-thirds of people in Bangladesh — possibly explaining the high Covid mortality rates of people of Bangladeshi descent in present-day global cities like London.

In the days and hours after the geneticists exchanged excited text messages and worked through the night to document their findings, a vigilant contingent of Justin Bieber's 130 million Instagram followers saw him lean towards the camera and adjust the front of his hat; the gesture was interpreted as a response to one of the thousands of comments posted during Bieber's livestream, asking him to touch his hat if he had been a victim of the "PizzaGate" child sex-trafficking ring. Spawned in the 2016 election cycle on 4chan and Reddit forums where Trump enthusiasts reassembled words and phrases from Wikileaks trove of John Podesta emails to construct a narrative of Clintonite global elites running a pedophilia ring in the basement of the Comet Ping Pong pizzeria in Capitol Hill, #PizzaGate had been pushed aggressively by Alex Jones in the months after Trump's effusive, 30-minute livestream with the conspiracist who had by then racked up more than two billion views on YouTube. Years earlier, in the hours after Hayek acolyte Rand Paul had done his very first radio interview with Jones speculating on how the 2008 financial crisis could lead to an American Hitler, Paul's campaign server crashed from the flood of traffic. Jones's multiple InfoWars and PrisonPlanet channels were eventually removed from YouTube, in August of 2018.

By that time, however, #PizzaGate was rapidly mutating in a growing conspiratorial ecosystem through new channels, culminating in the Summer of 2020 with a new generation of likes, shares, and memes on TikTok, QAnon Facebook groups, and hundreds of remixed Justin Bieber hat-touch videos translated into Spanish, Portuguese, and other languages, racking up millions of views in the U.S. as well as Italy, Brazil, and Turkey. TikTok posts on #PizzaGate were viewed at least 82 million times in the months when the Gates-Fauci conspiracies accelerated — while the meme machines added Gates himself to the roster of global elites (along with Ellen DeGeneres, Oprah Winfrey, and various other prominent figures) purportedly

involved in the pedophilia schemes (Kang and Frenkel, 2020). Meanwhile, the Department of Health and Human Services awards a data-mining contract for the HHS "Protect Now" platform for Coronavirus testing to Palantir, the analytics firm founded by proud gay Republican Trump supporter, Hayek Lifetime Achievement Award-winner, and transhumanist Peter Thiel. At the same time, the advancing frontiers of algorithmic extremism leave Alex Jones himself behind, as QAnon hordes on message boards classify him as "Traitor/Pawn," a "conspiracy theorist actor," a "fake MAGA pay-triot" backed by Mossad.

Oswin (2019, p. 5) may well be correct that "Geography as a field does not prioritize the material realities of differential embodiment," but one of the crucial lessons of our present planetary smart-city infrastructure of billions of bots and billions of smartphone-weilding urbanites scrolling through social media is that we are living through a new kind of co-evolution of material realities, ideas of human identity, difference, embodiment, and worth. We are living through an algorithmic reconfiguration of the alternating neo- and anti-Kantian *noumena*/*phenomenon* nexus of experience and thought we have traditionally called 'Geography' (Smith, 1989). There is a strange spatio-temporal epistemological closure, then, to the last century's Quantitative Revolution theories of nested hierarchical scales of physical human settlement. Near the end of Berry's 1969 vision of future urban systems, he surveys the massive physical features that had been the focus of industrial, modern urban spatial analysis — downtown corporate headquarters, daily flows of commuters on expressways and mass transit systems, new hotels and industrial spaces around growing suburban airports. Old-fashioned concepts like agglomeration and the friction of distance seemed to be on the runway, ready for takeoff into what Castells would later theorize as the global "space of flows" of the network society. "What if the geography of face-to-face contacts, of physical movement, of skyscrapers,"

Berry (1969, p. 50) asked, "is replaced by a thin layer of electrons spread over the countryside?" Where do our big cities go? "Is this the most probable future? Is it the most desirable?" Covid has now given us a Zoom, TikTok preview of such a world of overlapping material and informational urban systems, stitched together by online commodity chains transported by the newly untouchable-yet-essential-services courier class of the delivery precariat. The Gates-Fauci coronavirus conspiracies offer sobering lessons: we now know that the challenges of a biomedical breakthrough to cope with this most recent trans-species pandemic will be exacerbated by the behavioral dissidence of those who are convinced that vaccination is part of Gates' planetary chip-implanting scheme, a new Big Pharma Fauci-ism. Embodied and cognitive urban systems are co-evolving in non-linear, multiple, and unpredictable ways — but always, so far as we can tell, subject to the limited, embodied "circumference" of human cognition and attention in space-time (Kant, quoted by Hartshorne, quoted by Smith, 1989, p. 97). The non-Cartesian coordinates and bubble sizes of representations such as those shown in Figures 1 and 2, therefore, dutifully conform to the rank-size hierarchies that obsesses Zipf (1949), that in turn inspired Berry's (1964) cities as systems within systems of cities synthesis. Individual cities grow or decline; what remains stable are the hierarchical city-size distributions. So too with the nested hierarchies of concentrations of human interest and attention. We must not forget that Zipf was only led to urban hierarchies through his obsession with hierarchies of discourse and communications: Zipf, the linguist, had spent much of the 1930s developing a theory of the "psycho-biology" of language, at the precise historical moment when Mendelian heredity fused with Darwinian natural selection to forge the Modern Synthesis of evolutionary science. "Nearly twenty-five years ago it occurred to me," Zipf wrote in 1949 (p. v), "that we might gain considerable insight into the mainsprings of human behavior if we viewed it purely as

a natural phenomenon like everything else in the universe." And the evolutionary zeitgeist had also been embodied in Hayek, who saw as early as 1920 that market relations had evolved into the most complex and advanced information processor the universe had ever evolved; regardless of the ontological veracity of that epiphany, there is no doubt of the performative power of the orchestrated, hierarchical political maneuvers of the Neoliberal Thought Collective over more than half a century to create this evolutionary reality — often by force.

Now, as the production and communicative interaction of human culture, human nature, and human difference co-evolve with the distinctive contradictions of politics and religion in America's anti-urban constitutional structure, the self-replicating memes of cognitive capitalism push us ever farther away from any conception of social justice that honors equality. Instead we're in a complex, confusing, conspiratorial ecosystem of infinitely adaptive algorithmic evolution of difference and diversity, of both religious and secular "worship of fragments" (Harvey, 1992a, 1992b) across all of the multiple axes of traditional political and cultural binaries. Can humans come together in cities of difference to find new, genuine solidarity, to imagine and enact a more equal urban world where human difference is becoming its own mode of production?

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