Hayek in the Cloud: Conservative Cognition and the Evolution of the Smart City

Smart cities theory and policy emphasizes the new — new cities, new technologies, and new possibilities of efficiency, innovation, and optimization. While some of the technological details of smart cities are indeed new, the underlying philosophy involves economic and policy traditions built in the mid-twentieth century—which were in turn premised on nineteenth-century epistemological revolutions. In this paper, I suggest that today's Silicon Valley smart-city disruptions are the culmination of the social and political philosophies of Friedrich Hayek, fused with World War II cybernetics and the evolutionary methodological syntheses of Francis Galton and Karl Pearson. Today's cosmopolitan world urban system, with its dynamic hierarchies of entrepreneurial informational innovation and promises of politically neutral managerial efficiency, encodes the automated software updates of a dominant but unstable operating system of social and cultural conservatism that consolidated the self-perceptions of Western civilization. Yet the evolution of conservatism—especially American conservatism—has produced an ignorance of its own history and contradictions. The planetary urbanization of Hayek's smart-cities triumph, therefore, promises a transhumanist future of apocalyptic beauty in a robotic seige of the very foundations of cultural conservatism.

In recent years we've been inundated with corporate, policy, and scholarly discourses of "smart" urbanism. What, precisely, is the nature of the "smart city"? To work towards an answer to this question, we need to consider the connections between seemingly unrelated technologies, processes, discourses, and ideologies. Here are three.

The first comes from Anthony Townsend, whose 2013 *Smart Cities* manifesto announced the arrival of a new phase of urbanism, of "Big Data, Civic Hackers, and the Quest for a New Utopia." Townsend portrays an urbanizing world shaped by the astonishing ubiquity of powerful machines and sensors that have proliferated so rapidly that they have become "so familiar, so mundane, that we hardly notice" (Townsend, 2014, p. xi). "Hints of a newly sentient world lurk everywhere," Townsend (2014, p. xi) writes;

> "A traffic signal sprouts a stubby antenna and takes its cue from a remote command center. The familiar dials of your electric meter have morphed into electronically rendered digits, its ancient gearworks supplanted by a powerful microprocessor. Behind the lens of that surveillance camera lurks a ghost in the machine, an algorithm in the cloud analyzing its field of view for suspicious faces."

And this is just the tip of the iceberg, Townsend warns.

> "The world is being kitted out with gadgets like these, whose purpose is unclear to the untrained eye. With an unblinking stare, they sniff, scan, probe, and query. The old city of concrete, glass, and steel now conceals a vast underworld of computers and software,"

Townsend notes, and it's all connected via the internet in "a nervous system that supports the daily lives of billions in a world of huge and growing cities" (Townsend, 2014, p. xii).

Townsend analyzes this new kind of city — a "smart city," a place "where information technology is wielded to address problems old and new" (Townsend, 2014, p. xii) — by traveling around the world to interview entrepreneurial city mayors, countercultural hackers, maverick scholars of media and communications theory, and corporate executives of IBM, Cisco Systems, and Siemens. "[T]he real killer app for smart cities' new technologies is the survival of the species," Townsend concludes, as our current century of urbanization becomes "humanity's last attempt to have our cake and eat it too, to double down on industrialization." The challenge, Townsend (2014, p. xiii) suggests, is "redesigning the operating system of the last century to cope with the challenges of the coming one." Townsend implores his readers, you and I, to embrace the radical populist democracy of this new kind of urbanism. "[T]his isn't the industrial revolution" with its corporate monopolies and governmental centralization, Townsend (2014, p. xiii) reminds us; "it's the information revolution. You are not just a cog in a vast machine. You are part of the mind of the smart city itself. And that gives you power to shape the future." Townsend offers a smart-city vision that seems irresistible, seductive, and empowering. "Look in your pocket," he says; as you and the powerful supercomputer of your smartphone join the billions of other networked cityzens across the planet, always remember that "You already own a smart-city construction kit."

The second connection involves the discursive strategies of pursuing power in what Nigel Thrift (2003) once called the "metropolitan talk machines" of political capitals like London, Brussels, or Washington, DC (Wyly, 2005). An especially bizarre spectacle was showcased in the Republican primary race in the 2012 U.S. election cycle. For years, journalists had chronicled the rise of Paul Ryan, once described as a "brain box" and anointed by the *Weekly Standard* as "the Republican Party's intellectual leader" (Wapshott, 2012). On his rise to

prominence, Ryan had repeatedly praised Ayn Rand, whom he had been reading since high school; it was *Atlas Shrugged*, he explained, that first got him interested in economics, and that's why he gave copies of the book as Christmas presents, and required his interns to read it. But by the time he became Chair of the House Budget Committee and his further ambitions attracted more scrutiny, it became clear that admiration for a hardcore atheist would be a liability with the Party's Christian evangelical base. President Obama had described Ryan's austerity budget blueprint as "Republican social Darwinism," and as Ryan prepared for a speech on his principles at Georgetown University, more than 90 faculty members signed a letter critizing his interpretations of Catholic social teaching. "I am afraid that Chairman Ryan's budget reflects the values of his favorite philosopher Ayn Rand rather than the gospel of Jesus Christ," said Father Thomas Reese, a Jesuit priest at Georgetown; "Survival of the fittest may be okay for social Darwinists but not for followers of the gospel of compassion and love" (quoted in Costa, 2012). As journalists paid closer attention to the contradiction, Ryan had to take extreme measures. He told a correspondent for *National Review* that it was actually just an urban legend. "I, like millions of young people in America, read Rand's novels when I was young," Ryan confessed. "They spurred an interest in economics, in the Chicago School and Milton Friedman. But it's a big stretch to suggest that a person is therefore an Objectivist. I reject her philosophy," Ryan emphasized. "It's an atheist philosophy. It reduces human interactions down to mere contracts and it is antithetical to my worldview. If somebody is going to try to paste a person's view on epistemology to me, then give me Thomas Aquinas," he declared (quoted in Costa, 2012).

Curiously, though, other pasted epistemologies endured as Ryan's star rose in the summer. When Mitt Romney clinched the nomination, Ryan became Rupert Murdoch's preferred VP, and Romney, "threatened by the wrath" of Fox News and the rest of "Murdoch's

media empire" (Wapshott, 2012), complied. Through it all, Ryan continued to boast that he gives his staffers copies of Friedrich Hayek's (1944) biblical attack on the welfare state, *The Road to Serfdom*, to "get them up to speed" on his own philosophy. Hayek suddenly became the new keyword in the name-checking of elite epistemologies for Republicans struggling to balance establishment respect with the fiery rage of Tea Party activists for whom 'epistemology' was a Democrat plot to destroy America with gender-neutral bathrooms. Hayek had inspired the right-wing faithful from Barry Goldwater to Ronald Reagan, and as a teenager, Ted Cruz had earned money giving speeches on Hayek's free-market principles at Rotary and Kiwanis Club dinners (Flegenheimer, 2016). When Cruz secured the Republican nomination for his Senate bid just weeks before Ryan was announced as Romney's running mate, he proclaimed that he was "walking in uncle Milton's footsteps" in honor of the centennial of Friedman's birth. Meanwhile, Wayne Brough, an economist supervising FreedomWorks' efforts to harness the passions of the Tea Party, explained that the group's goal was to "eventually fill Congress with Hayekians" (quoted in Davidson, 2012). That goal has been fulfilled, although the angry anti-intellectual currents of the movement have necessitated some remarkable contortions of Hayek in the new Trumpian journal *American Greatness*, to make sense of the dangers of the Deep State (Kimball, 2018).

Our third connection comes from a twentieth-century paradigm of urban theory that was once so dominant it was satirized as "Urbanism, Incorporated" (Martindale, 1958). In a retrospective assessment of several decades of rapid expansion in urban geography, Nicholas Entrikin (1980) develops a meticulous genealogy of an earlier intellectual ancestor: Robert Ezra Park (1864-1944). Park was a restless scholar, innovator, and activist. One facet of the "dialectical pattern" of his career shifts (Matthews, 1977, p. 31) involved working as a

newspaper reporter covering gambling houses, opium dens, and the rest of the urban underworlds of Minneapolis, then Detroit, Denver, and New York. Another facet was work with the Congo Reform Association, and serving as Secretary to Booker T. Washington; and then there was the theoretical, philosophical path. As an undergraduate, Park studied with John Dewey at Michigan in the 1880s, and more than a decade later after sojourns as a journalist he went to Harvard — where he was deeply influenced by the pragmatist William James. Then he went to Germany for doctoral work with the neo-Kantian Wilhelm Windelband, while also attending Georg Simmel's lectures. Entrikin narrates a lifetime project of building what eventually became known as human ecology. When Park finally got the chance to lead Sociology at Chicago, he carved out disciplinary territory by combining neo-Kantian philosophy with Auguste Comte's positivism; moreover, Park sought to reconcile the neo-Kantians' ideals of reason and logical necessity with the pragmatists' focus on actions and their consequences. "Both neo-Kantianism and pragmatism were idealist philosophies in that the mind was seen to play an active role in our conception of the world," Entrikin (1980, p. 47) observes, "and thus scientific knowledge was never a mere copy of an external reality but rather evolved in a dynamic interplay between the mind and experience."

The evolution of this mind-experience interplay is crucial: "Park espoused a cognitive Darwinism," Entrikin (1980, p. 47) explains, "in which knowledge evolved and expanded in order to meet the needs created by new problems faced by man." Park's cognitive Darwinism was premised on a "constructivist epistemology" of a societal nexus of individual subjectivity and collectively produced social realities embedded in a wider world of real, external nature. "We are constantly making knowledge so that instead of having private knowledge we have public knowledge," Park explained in a methods class in the spring of 1927; the role of science is

to produce an evolving, negotiated "universe of discourse," a "system" which "one could use to organize and understand experience" (student notes from the Park archives at the University of Chicago, cited in Entrikin, 1980, p. 47); the "universal discourse" of public knowledge is "the logical counterpart of the social consciousness" (Park, 1927).

Is it any wonder, then, that Park would have an idea for a new kind of urban information technology, a journalistic teletype decades before its time? He called it the "Thought News." The idea was to distill all of a city's news into a summary measure of sentiment, to take the pulse of the city. It looks a lot like the sentiment analysis that's often applied to today's twitter feeds.

Here is my provocation on the "smart city": all of these things are co-evolving. Townsend's vision speaks for smart-city entrepreneurs, developers, policy elites, and scientists who understand that under contemporary technological conditions, planetary urbanization means that we are — as a species — all living in an interconnected settlement system that weaves together cities, suburbs, and rural areas across the entire globe. Paul Ryan's abandonment of Rand in favor of Hayek reminds us of the power of conservative Christianity in the "social consciousness" of America's political economy — especially in the South, in its small towns and exurbs as well as its old deindustrialized landscapes of last century. You simply cannot abide a source of inspiration that defies and defiles a particular kind of American God. For the *real* bible thumpers, it was hard enough to get enthused with a *Mormon* at the top of the ticket; and the VP reads ... *philosophy*? ... philosophy of an *atheist*? Now, as for Friedrich Hayek, and this character Robert Ezra Park? That's the cognitive Darwinism. The phrase is a retrospective label for Park's urban theory, but as the philosopher Nicholas Rescher (1977, p. 126) points out, "[t]he concept of knowledge as a tool for survival" is "as old as biological Darwinism" itself; Rescher (1977, p. 307) argues that American pragmatism and European Marxism have always been

unified by the same "tendency of thought — the idea of the controlling role of the demands of practical life as the ultimate arbiter of cognitive adequacy" (see also Rescher, 2005). In American politics, however, a phrase like "cognitive Darwinism" is deeply offensive to the core constituencies of the Republican coalition. The true 'American exceptionalism' is a libertarian, free-market survival-of-the-fittest political economy premised on an enduring theological refusal of Darwinism. Public acceptance of evolutionary science exceeds 70 percent in Germany, France, Spain, Italy, and the United Kingdom — compared with only 40 percent in the U.S.; that share has fallen significantly over the past quarter-century, and the measurable, independent effect of fundamentalist religious belief on acceptance of science (Miller et al., 2006) has been a key element of Republican strategy ever since the 1970s (Barnesmoore, 2017). American conservatives were apoplectic when Pope Francis spoke at the Pontifical Academy of Sciences and "appeared to endorse two major scientific concepts that have given religious believers big trouble: the Big Bang and evolution." (Mooney, 2015).

This is why Paul Ryan's continued embrace of Hayek is such a majestic contradiction: while most American conservatives equate cognitive Darwinism with the 'secular humanism' of scientists, atheists, and other libtard species, in fact the most powerful and far-reaching cognitive Darwinist epistemology ever built comes directly from Hayek himself. It's the foundation of the entire neoliberal program: every attack on Keynesian demand management, every celebration of the heroic entrepreneurial job-creator, every challenge to the idea that government planners can do a better job than the free market — it's all built on Hayek's application of cognitive Darwinism to political economy, a worldview that he developed as early as 1920. In this sense, the intellectual and political movement launched by Hayek achieved a globalization of the "Urbanism, Incorporated" hegemony that led critics to describe Park's thought as "biological

political economy." Today, every serious neoliberal intellectual understands the evolutionary roots of neoliberalism, and in the U.K. every Tory and New Labour apparatchik understands that free-market innovation is an inherently evolutionary process; but right-wing operatives in the U.S. can never admit this publicly, even as they repeatedly dig Hayek up to fight the latest ideological war. "Republicans were so freaked out about creeping socialism during the Obama presidency," we learn from a blogger at the American Enterprise Institute concerned that Trumpian nationalism will entail government intervention, "that they turned Hayek's 1944 warning against central planning, *The Road to Serfdom*, into an unlikely best-seller" (Pethokoukis, 2018). "[W]hat better ideological champion for the burgeoning Tea Party movement than Hayek," he asks, "the gloomy Austrian economist known for his attacks on ... Keynes" and his "major influence" on Reagan; but buying *Road to Serfdom* is just a one-click checkout, while actually *reading* it takes time out from marching with posters like "Government Hands Off My Medicare." And so nobody seems to have noticed that American political conservatives, from Barry Goldwater to Saint Reagan to Paul Ryan, have embraced the ultimate cognitive Darwinist, with a sly dance across a third rail of American cultural politics that has been electrified ever since the Scopes Trial. In *Forbes*, you can read all about how the Republican Establishment "ridiculed Trump's supporters as economically illiterate," (Reuter, 2016) while ignoring the way his populism echoes William Jennings Bryan, the "silver-tongued Nebraskan" who won the 1896 Democratic nomination in Chicago and led the party into minority status for almost four decades; or you can read a re-post from the Mises Institute to Alex Jones's *InfoWars* on the enduring evils of the Progressive Era (Newman, 2017), or you can quickly find the audio of Bryan's "Cross of Gold" speech on YouTube, where the auto-recommend algorithm suggests that you might also be interested in George Wallace defending

segregation in 1968, or Richard Nixon defending his legacy in a 1993 interview from Moscow, or Reagan's 1964 "Time for Choosing" speech. Alt-right Republican literacy is a weird Marshall McLuhan meth-head hybrid where John Birchers became Obama birthers, and, after all, even though Bryan wasn't at his best after his opening statement declaring, "if evolution wins, Christianity goes," Scopes was in fact convicted. The trial in Dayton, Ohio was in part a publicity stunt dreamed up by a transplanted New Yorker, a modernist Methodist and coal company manager who convinced town leaders that a trial could put the city "on the map" after losing forty percent of its population over the previous three decades. The first live radio transmission ever broadcast from a trial, the spectacle that the *New York Times* called "the most amazing court scene in Anglo-Saxon history" took place at nearly the exact moment that Robert Park's long-running course on 'The Natural History of the Newspaper' went to press in *The City*. For Park, "the struggle for existence" of the newspaper, of the "surviving species" of the kinds of universal discourses discovered by Joseph Pulitzer and William Randolph Hearst, "has been a struggle for circulation." (Park et al., 1925, p. 80). This was only a few years after Hayek returned from the First World War, and spent three years at the University of Vienna avoiding the "painful" lectures of aging professors, instead reading "long dead," "long out of fashion" psychologists that led to "a sudden flash of insight" on how millions of years of evolution had produced conscious human thought (Hayek, 1982, p. 287). On appeal, Scopes's conviction was overturned on a technicality, but the state's anti-evolution law was upheld as Constitutional. Nearly a century later, after "Trump Digs Coal" rallies in declining rustbelt towns and endless attacks on the "fake news" mainstream media, a Christian writer who graduated from Bryan College, an evangelical school just a mile away from the Scopes Trial Museum in Dayton, recounts how she was taught to distrust information "from the scientific or media elite because

these sources did not hold a 'biblical worldview.' ...It was presented as a cohesive worldview that you could maintain if you studied the Bible," she explains; "Part of that was that climate change wasn't real, that evolution is a myth made up by scientists who hate God, and capitalism is God's ideal for society." (quoted in Worthen, 2017). Hayek's stature as a great libertarian free-market economist is safe, so long as Fox News, or Breitbart, or Alex Jones don't run any stories on his theories of human cultural evolution and the information society. Trump certainly ain't going to tweet about it.

I suggest that the "smart city" is the newest label for the latest ensemble of technologies that have defined urban life for an ever-increasing share of the planet's population. With each generation, a growing share of the world's people are *urbanites*, and the technologies connecting these city-zens — through migration, regular travel, and especially more frequent communication — have become ever more pervasive, efficient, and adaptive. Samuel Butler had it right in 1863 when he wrote to the *Canterbury Press* to warn that the machines of information and communication were "gaining ground upon us," allowing us to "send the mind from here to China in an instant of time" but also announcing the obsolescence of the human mind itself. From hieroglyphics to the printing press to the telegraph, Butler warned, there is a singular principle at work: "increased facility for the action of mind upon mind" (Butler, 1863, in Jones, 1917, p. 46; see also Jones, 1959). Butler was concerned about the accelerating evolution of "mechanical life": he called it "Darwin among the machines."

Hayek's Evolution

> "The intellectual history of the last sixty or eighty years is indeed a perfect illustration of the truth that in social evolution nothing is inevitable but thinking makes it so."
>
> —*The Road to Serfdom* (Hayek, 1944, p. 50).

Hayek's legacy in political economy is universally acknowledged: from his 1944 *Road to Serfdom* attack on collectivism and his 1947 creation of the Mont Pelerin Society to Reagan's Laffer-curve tax cuts and the post-Cold War declaration of liberal market democracy as the "end point of mankind's ideological evolution" (Fukuyama, 1992, p. xi), Hayek's absolute theory of market supremacy has been the foundation of all economic conservatism. He influenced "virtually every prominent free-market economist," his *Times* obituary remarked, and "provided intellectual fodder" for the Reagan Administration's "young turks" who did so much to entrench America's decisive shift to the right (Nasar, 1992); "More than almost anyone else in the 20th century, this guy was vindicated by the events in Eastern Europe," declared Austin Furse, director of policy planning in George H.W. Bush's White House (quoted in Nasar, 1992). And yet even as Hayek remains the undisputed hero of all who celebrate the powers of deregulated free-market innovation, he is misunderstood. Key aspects of his thought are neglected, forgotten, or actively avoided. Two issues are crucial here: Hayek's theory of the role of information in cultural evolution, and the implications of his thought for American urban theory and political ideology.

Informational Cultural Evolution

The most important thing to know about Hayek is that he was not really an economist. He saw himself first and foremost as a biologist, and secondarily as a psychologist. And even though it was the economics of supply and demand that shaped his career path — as he knew it would be tough to make a living as a biologist in the aftermath of the First World War — his passion for both biology and psychology was unified by a commitment to evolutionary thought. Humanity's evolution had been not only biological but also psychological, and Hayek's insight was that economic and technological modernity altered the *relations* between the psychic and the biophysical: how we *think* about our evolutionary path becomes decisive in what happens next. Such logic bears a surface resemblance to the broader currents of philosophical renovation of what Dewey (1909, p. 90) called the "conceptions that had become the furniture of the mind," as the Darwinian revolution took down the last foundations of theological human science. But in the face of the prevailing epistemologies of progressive human development and advancing knowledge, Hayek saw the opposite. In Hayek's view, the evolution of human awareness, thought, and capacities of logic and reflection—the cognitive "Copernican revolution" initiated by the 'empirico-transcendental doublet' of Kant's phenomenological interface between empirical sense-perception and transcendental reason and free will (Foucault, 1966)—had created a dangerous illusion. As we think and reason using the capacities bequeathed to us by millions of years of biological evolution, Hayek argues, we begin to think that we now know enough to take over from nature and do better: we come to believe that we can steer our own collective evolutionary path. This arrogant presumption is not just wrong, Hayek emphasizes repeatedly; it is a conceit that is *fatal*, since a belief in human scientific achievement and development becomes the philosophical foundation of centralized managerial expertise that in

turn necessitates structures of political authority that inevitably grow more coercive. Thus the Enlightenment paradox: astonishing scientific advances that lead straight to the totalitarian state and the industrialized, optimized genocidal modernity of National Socialism. "As is so often true," Hayek declares in *The Road to Serfdom*,

> "the nature of our civilization has been seen more clearly by its enemies than by most of its friends: 'the perennial Western malady, the revolt of the individual against the species,' as that nineteenth-century totalitarian, Auguste Comte, has described it, was indeed the force which built our civilization." (Hayek, 1944, p. 16).

Hayek is here celebrating the central, heroic figure of his philosophy—the free, risk-taking entrepreneur, revolting against conventional wisdom to try something genuinely new—but he also reveals his own bizarre contradictions. One of those contradictions would only be clear decades later, when Hayek attributed the overthrow of the Shah of Iran to the population's slow pace in learning "the moral conception on which capitalism rests," and when he praised Pinochet's Chile for "an economic recovery that is absolutely fantastic" (quoted in Geddes, 1979). "You can have economic freedom without political freedom," Hayek explained, "but you cannot have political freedom without economic freedom" (quoted in Geddes, 1979).

The other contradiction was Hayek's view of the past. Auguste Comte can be labeled a "nineteenth-century totalitarian" only by ignoring all of the violence and uncertainty of postrevolutionary France, and the generations of militarized theocracy that Comte was challenging (Pickering, 1993). Ironically, *Road to Serfdom* became the turning point in Hayek's life thanks to runaway sales in precisely the same place that shaped Comte's "mental and moral development," the "American mirage" of the Founding Fathers (Hawkins, 1936, p. 9) and the

political movement he envisioned achieved Rostowian take-off only after Milton Friedman finally produced a watered-down *Reader's Digest* version appropriate for an increasingly postliterate tabloid American audience (Mirowski and Plehwe, 2009). But Hayek gleefully includes the insurgent atheist in the "culmination of a long evolution of thought" that he blames for the "socialist roots of Nazism" (Hayek, 1944, p. 171). The genealogical ironies here run deep, since a central protagonist in Comte's struggle to build a post-theological science of positivism was the 'spiritualistic' psychologist Victor Cousin—whose doctrine of "interior observation" provided the last-ditch defenses for Europe's medieval political order of Royal divinity. "Reason is in man," Cousin (1853, p. 100) conceded, "yet it comes from God. Hence it is individual and finite, while its root is in the infinite. ..." John Stuart Mill fundamentally misunderstood Comte's attack on Cousin's authoritarian theological psychology (Scharff, 1995, p. 11, pp. 19-44). Comte's attack on a perverted sort of neurological Cartesian Christianity was thus lost when Mill popularized the first half of the positivist project for the Anglophone world—and any remaining threads were cut when Mill angrily dismissed the second half of Comte's project, the "subjective synthesis" that (rather ironically) resonates with contemporary currents of poststructuralism, standpoint epistemology, and situated knowledge. More fundamentally, a new reincarnation of Cousin's interior observation was hard-wired into neoliberalism when Hayek was only 21, when he had that "sudden flash of insight" that connected his "family background in biology to social and philosophical issues" (Hayek, 1982, p. 287). Hayek suddenly saw an anti-Kantian blend of Hume's empiricism and Darwinian evolution, in which all the attributes of empirical sense-perception—indeed, "*all* mental qualities"—can only be understood as the evolutionary product of a system of connections between individual human brains and the external environment. "[T]he world of our mental

qualities provide[s] us with an imperfect generic map" of an entire external world, Hayek suddenly understood, but "with its own units existing only in that mental universe"; despite its imperfections, this evolved cognitive map serves "to guide us more or less successfully in our environment. ..." (Hayek, 1982, p. 288). "Mental events are a particular order of physical events within a subsystem of the physical world," Hayek saw, "that relates 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 neurons of individual human brains are co-relationally constituted through the contextual position of neural impulses "in a system of relations between all the neurons through which impulses are passed," in "a process of continuous and simultaneous classification and constant reclassification" applied not just to raw external stimuli, but to *all* "mental entities," including "emotions, concepts, images, drives, etc., that we find to occur in the mental universe" (Hayek, 1982, p. 289). The evolved human mind of logic, reason, and free will, therefore, is "a continuous stream of impulses" synthesizing internal and external stimulus-response matrices "in which the state of the organism constantly changes from one set of dispositions to interpret and respond to what is acting upon it and in it" (Hayek, 1982, p. 291). Neurological processes are embedded in endless dynamic feedback circuits between the brain-and-neuron scales of 'interior observation' and the organism's environment.

For a symposium celebrating the quarter-century anniversary of a psychology treatise he published in the 1950s, Hayek told an audience of admiring psychologists that he saw all of this quite clearly as early as 1920. He went so far as to apologize to his acolytes for what he regarded as elementary, self-evident truths discovered in the nineteenth century; moreover, he was more than thirty years late publishing his 1920 epiphany, he explained, because of the urgency of making a living in economics—where his efforts to make a mark at the London

School of Economics were thwarted by the widespread appeal of theories of scientific economic management as embodied in the neurological impulses known as John Maynard Keynes.

Hayek's disputes with Keynes in the 1930s established his reputation as a free-market economist. In the short run Keynes prevailed in that debate through the widespread influence of the *General Theory of Employment, Interest, and Money*, published in 1936, but his memorable quip that in the long run we're all dead only applied to his own theories. More lasting and pervasive consequences reverberated from Hayek's political economy, forged in *Serfdom* (1944), *The Constitution of Liberty* (1960), and the burgeoning outputs of a vast transnational ensemble of orchestrated ideological promotion by a "Neoliberal Thought Collective" carefully mapped by Jamie Peck (2010) and Philip Mirowski (2011). Especially after his death, when journalists could no longer ambush him for embarassing quotes praising the latest capitalist dictators, Hayek's conception of political economy enjoyed an energetic zombie resurrection—becoming what Stephen Metcalf (2017) calls "the idea that swallowed the world." What is so often neglected, however, is the fundamental role of biological evolution in creating ideas capable of swallowing the world. Hayek's biological psychology was ultimately a hybrid of 1) a looking-backward, tradition-focused strain of social Darwinism (Hofstadter, 1944), and 2) a futuristic theory of the information society that predated all of the twentieth century's discourses of communications technologies, from Norbert Wiener and Alan Turing to Marshall McLuhan and Manuel Castells.

The core of Hayek's attack on socialism is an ontology of human ignorance. The evolved networks of unregulated market relations we typically describe as 'capitalism' constitute "a mechanism for communicating information," creating a collective intelligence that surpasses the capacity of any and every human attempt to control or understand it. Every individual human

attempt to understand the evolutionary dynamics of supply-demand fluctuations, innovation, and competition is doomed to fail; even the large-scale aggregations of specialized human expertise in nation-state institutions of economic management can never approach the omniscience of the species-wide development of humanity's "mental universe" adapting to the organic environment. "In my own mind," Hayek (1982, p. 291) explained to his audience of psychologists, the psychology of *The Sensory Order* (1952) was identical to the economics of the *Pure Theory of Capital* (1941) —where, once again, Hayek relies on Mill to blame Comte for a statics/dynamics dichotomy that misled economists when they were developing equilibrium analysis (Hayek, 1941, p. 18). For Hayek, *The Sensory Order* and the *Pure Theory of Capital* were two versions of the same story of evolution—requiring an entirely new kind of long-run analysis to look far beyond the inadequate, short-sighted cop-outs such as "temporary partial equilibrium" (Hayek, 1941, p. 19). Mind and money evolved with one another, and a short-run economics that ignores this evolutionary history is not just "a dangerous intellectual error," but "a grave menace to our civilization" (Hayek, 1941, p. 409). Hayek (1982, p. 291) explained that he "liked to compare" the infinitely-adaptive stimulus-response patterns of "neural impulses, largely reflecting the structure of the world in which the central nervous system lives, to a stock of capital being nourished by inputs and giving a continuous stream of outputs." "Fortunately," Hayek (1982, p. 291) continued, "the stock of this capital cannot be used up."

Parallax Views of Evolutionary Urbanism

What do these evolutionary lineages have to do with urban theory and public policy? Here we encounter an uneven and non-linear historical progression. The evolutionary origins and implications of urbanism were clear and explicit in the early twentieth century—especially

Patrick Geddes' (1915) conception of polycentric "conurbations" as evolutionary adaptations to humanity's changing industrialized relations with nature, which Lewis Mumford (1938) built into a comprehensive justification for regional planning. Similarly, we see frequent evolutionary logics and terminology in today's revival of interest in humanity as what the celebrity economist Ed Glaeser (2011) calls "an urban species," of seeing urban processes like gentrification as what the British science writer Philip Ball calls "a natural evolution." And yet this has been a profoundly uneven and contradictory trajectory, as several disjunctures conditioned the politics of evolution. First, while Darwinist theories of human ecology remained strong and explicit through the 1960s in the Chicago School of *sociology*, they were buried in the obscure methodological machinery of the Chicago School of *economics*. With the exception of Milton Friedman's (1953, p. 22) brief mention of Darwinian natural selection among competing firms struggling to maximize returns, American neoclassical economics carefully avoided evolutionary discourse and instead emphasized the elegance, neutrality, and technocratic sophistication of econometrics and mathematics (Hodgson, 2003). In part, this approach reflected the alliance between a positivist philosophy of science and a neoclassical orthodoxy with a "common descent from the wartime innovation of Operations Research" (Mirowski, 2005, p. 143). The strange hybrid of the "social epistemology of the relationship of science to society" (Mirowski, 2005, p. 144) that defined postwar America is doubly ironic: lavish military funds propping up claims of objective, independent, and value-free science, and a futuristic cybernetic world of computerized calculations that were all premised on the eugenic biometrics of Karl Pearson's chi-square distributions, which were the calculative progeny of Francis Galton's (1869, p. v) obsession with measuring "the mental peculiarities of different races" to document *Hereditary Genius*, to build an "anthropometric seraph" that, "given an hour of a man's life ... could calculate all that he ever

has been, and all that he ever will be" (Galton, in a lecture to the Royal Institution in 1871, cited in Hacking, 1990, p. 180).[1] But such obscure historical ironies were really only understood by the historians and philosophers. No economist hoping to influence policy or politics would ever waste any time on messy histories that could be safely left behind in Victorian London. With the privilege of disciplinary power, American economics never faced either populist or elite demands to justify its assumptions—and could thus conceal the codes of social Darwinist epistemologies in the evolving operating systems of simultaneous equations, matrix algebra, and maximum likelihood model estimation.

Sociology, always in a more precarious position, tried to modernize the old evolutionary frameworks. The 1920s urbanization of plant ecology metaphors like "invasion and succession" to understand the spatial relations of competition and selection in the reproduction of human nature (Park et al., 1925, pp. 64 ff) eventually became Talcott Parsons' 1950s structural-functionalist framework of social change as evolutionary adaptation of a social system to its wider contextual environment of energy and information—a fully modernized sociological "extension of biological evolution" (Giddens, 1984, p. 263; Parsons, 1951; Haines, 1987; Gregory, 2000).

Similarly, the perpetually traumatized discipline of geography struggled to move beyond the discredited linear teleology of environmental determinism—its ill-fated attempt to separate itself from geology while unifying the study of physical and human spatial processes to gain a foothold in the expanding American academies that flourished in the social Darwinist decades from the 1870s to the First World War (Hofstedter, 1944; Smith, 2003, p. 43, 44, 190). In the early days of the Quantitative Revolution, geographers worked to recover one of Darwin's genuinely unique contributions—the role of random variation—that had been suppressed by the

[1] Seraph, from the Medieval Latin and from Hebrew, a member of the highest order of angels.

contradictory blend of scientific hierarchy and the "curious mixture of revelation and natural theology" of nineteenth-century Christianity in England (Stoddart, 1966, p. 696; Harvey, 1969, pp. 416-417). Yet the sudden political and intellectual ferment of America in the 1960s intervened, and further widened disciplinary contrasts. When a new generation mounted revolutionary challenges in urban sociology and urban geography, any allusion to Darwinism was quickly attacked as a bourgeois attempt to naturalize social inequality through scientific justifications for colonialism, imperialism, racism, and sexism (Harvey, 1973). In his history of radical geography, Dick Peet (1985) recalls that it was Jim Blaut—"far better read than anyone in those days"—who drew attention to Kropotkin's emphasis on cooperation rather than competition as the central theme of evolution. Radical sociologists, too, rebelled against the systemization of thought associated with evolutionary logics: Immanuel Wallerstein's insurgent world systems theory of underdevelopment was attacked from the left as "Parsonianism on a world scale" (Cooper, 1981, p. 10).

Economics, though, never confronted the radical backlash to the Quantitative Revolution that shaped the rest of the social sciences. The most noteworthy trend has been a recent, widespread attempt to present evolutionary theory as a progressive alternative to neoclassical orthodoxy. Hence we see a fusion of cognitive psychology, neuroscience, and marketing research that presents *behavioral* economics as some kind of progressive alternative to the rational-actor axioms of neoclassical theory. The skull-scanning advances of functional MRIs are revealing that our evolutionary paths have left us with "cognitive quirks" that prevent us from conforming to the rational-actor assumptions of the neoclassical world: we're just a bit slow in our adaptation to the innovative optimizations modeled by the pseudo-Nobel laureates. The friendly versions of this wave of evolutionary thought in economics appear in Malcolm

Gladwell's beautiful narratives and in Michael Lewis's eloquent biography of the Israeli psychologists Daniel Kahneman and Amos Tversky, whose work on the systemic misperceptions of human intuition and decision-making laid the basis for behavioral economics and Big Data research. Once, when asked if their work was tied to the rapidly growing field of artificial intelligence, Amos replied, "You know, not really. We study natural stupidity instead of artificial intelligence." (quoted in Lewis, 2017, p. 293). Other friendly strains had marginal effects on policy discourses in Washington, DC, through Cass Sunstein's role in behavioral "nudges" like shifting from opt-in to opt-out 401K enrollment as the Obama Administration struggled to prop up the privatized tax-evasion substitutes for social insurance amidst the worst financial history in the history of global capitalism.

Hayek's Cognitive Darwinism

> "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 essence of a "smart city" is data — lots of it. 'Big Data' — the expanding variety, veracity, and velocity of information (Kitchin, 2014) generated by people and devices in the urban environment — certainly seems to be attaining truly unprecedented, overwhelming magnitudes. In the first dozen years of this century, as the world finally crossed the threshold into planetary urbanization, the proportion of global information stored in digital form rose from a quarter to

almost 98 percent (Mayer-Schönberger and Cukier, 2013, p. 9). Yet in other ways, this can be understood as the long-overdue empirical manifestation of theoretical insights refined in the earliest days of classical urban theory. In his magisterial "Urbanization of Consciousness," David Harvey (1989) traces the role of information in "power and consciousness formation" in a line that runs straight from Simmel's (1903, p.25) "Metropolis and Mental Life" — with the "intensification of nervous stimulation" that constantly reconstructs the "sensory foundations of psychic life" in the city — to the "segmented selves" of media-multiplied identities theorized by the young sociologist hired by Robert Park in the early 1930s, Louis Wirth (1938). From another perspective, today's "data revolution" (Kitchin, 2014) is simply the generalized application of pure and applied science breakthroughs of the 1940s wartime mobilization: the most prominent examples here include Norbert Wiener's 'cybernetic' theory of messages and feedback, Alan Turing's conceptualization of artificial intelligence, and John von Neumann's development of the stored-program computer — shattering the divide between numbers that *mean* things and numbers that *do* things (Dyson, 2012). Likewise, Claude Shannon's probabilistic quantification of entropy in "information theory" quickly spread through psychology and biology, as well as the postwar "science of military decision theory" in operations research and communication studies (Mirowski and Nik-Khah, 2017, p. 49).

At the same time, however, theories of information — and its relation with knowledge and decision-making — were the backdrop for every significant debate in economics, especially Hayek versus Keynes, "the clash that defined modern economics" (Wapshott, 2011). This is where the obscurity of Chicago Sociology's "cognitive Darwinism" intersects with the world-swallowing Chicago Economics neoliberalism of Uncle Milton, Ted Cruz, and Paul Ryan. The economic historians Philip Mirowski and Edward Nik-Khah (2017) identify a three-stage

"Hayek Trajectory" of the conceptualization of information that fundamentally altered the discipline to create what they call *orthodox information economics*. The first stage was part of an intervention in the Socialist Calculation Controversy launched by Ludwig von Mises' attack on the epistemic impossibility of central planning in calibrating prices better than a *laissez-faire* market. In "Use of Knowledge in Society," Hayek (1945) argued that economic knowledge was so widely dispersed, and so deeply embedded in "the particular circumstances of time and place," that it would be impossible to bring all relevant information together in a central planning authority.[2] Hayek was brief on the epistemology and formal psychology behind his claims, but there were hints in his description of the price system as the quintessential human achievement, "the central theoretical problem of all social science." (p. 528). The market coordinates the knowledge dispersed among multiple minds in ways that will *always* remain impossible for a single mind. The price system is "a mechanism for communicating information," (p. 526) even and especially in ways that do not require producers or consumers adapting to short-term changes to know "anything at all about the original cause" (p. 526) of market changes. "The most significant fact about this system is the economy of knowledge with which it operates," Hayek (1945, p. 526) declared, "or how little the individual participants need to know in order to be able to take the right action."

The second stage of the Hayek Trajectory happened in Chicago around 1950, an "intensive and lively place to be" for those inspired by the American beachhead of the newly-

[2] Mirowski and Nik-Khah (2017, p. 67) offer the subtle point that information centralization "would be difficult — but, note well, not *impossible*." I read Hayek differently. In attacking economists preoccupied with statistical aggregates, Hayek (1945, p. 524) is quite emphatic that "the sort of knowledge with which I have been concerned is knowledge of the kind which by its nature cannot enter into statistics and therefore cannot be conveyed to any central authority in statistical form." More generally, "the 'data' from which the economic calculus" of societal resource allocation "starts are never for the whole society 'given' to a single mind which could work out the implications, and *can never be so given*." (p. 519, emphasis added). Hayek's attack on centralization appealed to critics of Keynesian managerialism — especially those who ignored the inconvenient implication that *all* claims to economic expertise (even of the neoclassical or neoliberal kind) are inherently suspect.

established Mont Pèlerin Society (Mirowski and Nik-Khah, 2017, p. 61). It was during Hayek's time at the Committee on Social Thought when he finally returned to that sudden flash of insight he had back in 1920; this is where we have an Oculus Rift view of Hayek's nineteenth-century thought, as he relied on the associationist psychologists who had shaped Mill's interpretation of Comte's attack on "internal consciousness," the Comtean dictum that "Our intelligence can observe all other things but not itself" (quoted in Guillin, 2004, p. 173). Again, remember that Comte's rage was directed against Victor Cousin's metaphysical, theological MRI, the God-given technology of "interior observation," and not the associationist psychology of Mill — and also of Hayek. This is the eighteenth- and nineteenth-century logic that Hayek encodes into twenty-first-century neoliberalism: the notion that the human mind is "little more than sets of hierarchies of systems of classifier algorithms, which were opaque to the thinker" (Mirowski and Nik-Khah, 2017, p. 68). Hayek turned Freud on his head, portraying *rationality as unconscious*. As Mirowski and Nik-Khah explain:

> "It was also precisely at this juncture that Hayek began making explicit references to evolutionary theory as the basis of his entire philosophy. ... the individual mind did not actually choose the rules that worked the best; that was done either through a sort of quasi-evolutionary selection of life success of the individual level reinforcing the relevant classifier rules, or, more frequently, through natural selection's weeding out the individuals with unfit rules in favor of those individuals lucky enough to come previously equipped with superior classifiers. It was, not to mince words, a harsh version of social Darwinism." (Mirowski and Nik-Khah, 2017, p. 69).

Hayek's third stage unfolds all of the epistemic implications of the limits of human knowledge. In one reading this is only explicit in Hayek's (1968) article, "Competition as a Discovery Procedure" (see Mirowski and Nik-Kah, 2017, p. 70), but it is not hard to discern the point as early as Hayek's 1945 article. In this stage, as Mirowski and Nik-Khah (2017, p. 70) describe, "since so much that people actually knew was inaccessible to them, the only entity that really was capable of judging and validating human knowledge was The Market." There's a striking irony here for an ideology seemingly so concerned about individual rights and the achievements of the entrepreneur: the information bequeathed by market evolution sustains a "spontaneous order" that surpasses all that can possibly be known — not just by *any* human but by *all humans*. 'Irony' comes from the Greek *eirōneia*, for 'simulated ignorance,' and this is what we might call the "Full Hayek," an unabashed cognitive Darwinism:

> "I am convinced that if [the market] were the result of deliberate human design, and if the people guided by the price changes understood that their decisions have significance far beyond their immediate aim, this mechanism would have been acclaimed as one of the greatest triumphs of the human mind. Its misfortune is the double one that it is not the product of human design and that the people guided by it usually do not know why they are made to do what they do. But those who clamor for 'conscious direction' — and who cannot believe that anything which has evolved without design (and even without our understanding of it) should solve problems which we should not be able to solve consciously — should remember this: The problem is precisely how to extend the span of our utilization of resources beyond the span of the control of any one mind: and, therefore, how to dispense with the need of conscious control and how to provide

inducements which will make the individuals do the desirable things without anyone having to tell them what to do." (Hayek, 1945, p. 527).

#HayeklovesDarwin

Let's return to our contemporary concerns with the meanings of the "smart city." The week before Paul Ryan and Mitt Romney took the stage at the 2012 Republican National Convention in Tampa, a *Times* correspondent profiled the confusing diversity of conservative groups and activists maneuvering to "turn the inchoate anger of the Tea Party into a focused pro-Hayek movement that would either take over the Republican Party or create a new one" (Davidson, 2012). That summer, Jatinder and I had a front-tire blowout at highway speed that culminated in a nice overnight stay in the thriving metropolis of Burley, Idaho; at almost exactly the same time, a few miles away at a private luxury ranch, Republican operatives met with Clint Eastwood and got him to agree to do an appearance on stage at the convention. *Dirty Harry*, Eastwood's quintessential urban character, is the definitive vengeance film for every conservative who hates the dangerous diversity of the city, who hates Miranda warnings, search warrants, and the wimpy San Francisco political correctness of worrying about the "rights" of criminals. As Stuart Kaminsky noted in the 1970s, each scene was "carefully constructed to inflame lower middle class phobias and to toy with its most sacred symbols, like the Constitution and the gun ... cracking a reactionary whip whose sting can only intensify mistrust and suspicion at various levels of society" (Kaminsky, 1974, p. 125, cited in Smith, 1993, p. 91). In 2012, who could have imagined that Clint Eastwood's last-minute ad-libbed stand-up comedy routine with the chair and anal auto-gratification would bomb? Right turn, Clyde. *Dirty Harry* defies the bureaucracy of the police, the courts, and the city — the weak, soft, arrogant superiority of the

urban elite, the mayor, the judges, the district attorney, the law professors — to say what no one else will say, to do what no one else will do, because the complex rules and regulations of taxpayer-funded progressive *civic justice* get in the way of the obvious simplicity of *natural justice* (Smith, 1993, p. 92). *Dirty Harry* was widely attacked as an "out-and-out apologia for fascism" (Smith, 1993, p. 90), but Eastwood and director Don Siegel — whose earlier credits included the original *Invasion of the Body Snatchers* — were invited to speak to police department audiences about the film's portrayal of "extreme" policing methods. And so in 2012 it was either a brilliant masterstroke or a catastrophic disaster to follow up Eastwood's Chrysler ad for the Super Bowl audience of 111 million — the raspy nostalgia of "It's halftime in America" enraged many right-wingers who misunderstood it as supporting Obama's bailout of Detroit (Warren, 2012) — but there was a much clearer message in Dirty Harry's RNC culture-war declaration: "We own this country." True right-wingers hated Romney, and saw his candidacy as yet another appeasement to the moderate RINO establishment, and so the media spectacle of American conservative cognition, from Nixon to Reagan to Jesse "The Body" Ventura to Sarah Palin and then to Ted Nugent and Donald Trump, has been the fulfillment of Hayek's theorization of the evolutionary neural interface between an omniscient informational world market and all the emotions, concepts, images, and urges of each individual's "mental universe" (Hayek, 1982, p. 289). Speaking to the *Times* correspondent before the 2012 RNC, Bruce Caldwell, author of the biography *Hayek's Challenge*, pointed out that he "corrects people when they refer to Hayek as a conservative. 'He didn't want to conserve anything.'" (Quoted in Davidson, 2012). Strange wormholes opened up between the present and the past, as Eastwood later told his hometown newspaper, the *Carmel Pine Cone*, that Romney and Ryan loved the skit with the chair, and then *The Guardian* spread the word to a global audience that Eastwood

thought Obama was "the greatest hoax ever perpetrated on the American people" (Williams, 2012). This was just a few weeks after Donald Trump had tweeted, "An 'extremely credible source' has called my office and told me that @BarackObama's birth certificate is a fraud." (Megerian, 2016). Romney and Ryan took Burley and the rest of Cassia County, Idaho — that region hasn't gone Democratic since FDR's win in 1940 — and the few votes Obama got came mostly from a small section of the town, because that's now a fundamental axis of American politics: half a century ago, urban and rural counties split evenly between Democrats and Republicans, but there's now a tight correlational polarization that separates progressive Democratic urbanization from reactionary Republican strongholds in small-town and rural America (Badger and Bui, 2016). Media-savvy Republicans have understood this ever since the days of Saint Reagan. Writing a celebration of Clint Eastwood , "the leading movie star of the entire world" in the right-wing *Commentary* in 1984, Richard Grenier (1984) draws explicit connections between the appeal of *Dirty Harry* and the 1960s legacy of anti-Vietnam protests featuring students carrying the Viet Cong flag, a weak, pacifist foreign policy, and the radicalism of the nation's big cities — alienating "the other America out there." In "small-industrial or agricultural towns near liberal arts colleges," Grenier explains, the university townies go to the movies to see Jane Fonda or Meryl Streep, while the movies of Clint Eastwood — anointed by The Duke himself as the "only logical successor" to John Wayne, and who proudly voted for Nixon and Reagan — draw the crowds of "skilled industrial workers, farmers, men who if they no longer work with their hands come from" a very "different America" (Grenier, 1984, p. 62). It was the lure of the "mental universe" of that different America, of the slogan "Make America Great Again" that brought Hayekians to Washington in 1980 under the banner of the adaptive Hollywood cinematic cognition embodied in Ronnie's rural, patriotic, "real" America from the

1930s to the 1950s: *The Santa Fe Trail* (1940), *The Cattle Queen of Montana* (1954), *Law and Order* (1953), *Code of the Secret Service* (1939), *Knute Rockne, All American* (1940), and of course the bizarre *Bedtime for Bonzo* (1951). No wonder Reagan borrowed one-liners from the Dirty Harry franchise, repeatedly inviting Congressional opponents, "Go ahead, make my day."

Hayek, in his early eighties in Reagan's first term, took a gig as a visiting professor at the Heritage Foundation, and told a *Times* reporter that his main complaint with the Thatcher and Regan revolutionaries' battles to slay inflation was that they were too timid, too slow, too deferential to gradual, incremental change: "You have to do it rapidly and drastically," he explained (quoted in *New York Times*, 1982, p. D2). The biological evolution that has culminated in the fatal conceit of progressives and socialists is slow, but the forms of cultural evolution known as "psycho-social" evolution are "incomparably faster" (Hayek, 1988, p. 25), and for Hayek there was no time to waste. Hence the dangerous contradiction of today's smart-city, Big Data rhetoric about friendly, non-political or even progressive technocratic solutions. Sir Peter Hall, in his panoramic *Cities in Civilization*, remarks that "[o]nly occasionally does an abstract theorist have the fortune to find a disciple imbued with the quasi-religious zeal to carry [their] ideas into action. So it was with Marx and Lenin," and "so with von Hayek and Thatcher" (Hall, 1998, p. 676). So also with Hayek and Reagan, but whereas Hayek's nineteenth-century European psychology understood urbanization as the engine of informational diversity and differentiation that produced an evolutionary psychosocial extended order of capitalist humanity that "is probably the most complex structure in the universe" (Hayek, 1988, p. 127), Reagan was an entirely different mutation — theological American manifest destiny on the Western frontier. Reagan became America's anti-urban hybrid of free-market economics, supply-side tax cuts and deficit-financed Pentagon spending, states' rights dog-whistle racism of the sort announced in his

candidacy speech in Arkadelphia, Mississippi, and the evangelical Protestant creationism declared in his "just a theory" speech on evolution to 10,000 "born again" Christians from 41 states who gathered for a convention of the "New Right" in Dallas, Texas. It was the Scopes Trial all over again, but with a globally televised incarnation of Norbert Wiener's (1950, p. 163) prescient chapter on "Some Communications Machines and Their Future," where he develops a modern cybernetic update of Samuel Butler's warnings of 'Darwin Among the Machines.' This is where we see the true essence of today's smart city, of Townsend's (2013) analysis of the three thresholds we've crossed: humanity is now majority urban, smartphones have untethered and mobilized internet connectivity, and adaptive bots and algorithms outnumber humans online. Hayek is in the cloud, and we are now living in the spontaneous order of the omniscient free-market cognitive Darwinism that he understood almost a century ago, that he built with Thatcher, Reagan, Deng Xiaoping, Pinochet, and now Paul Ryan and Donald Trump, *ex officio* members of a digitally savvy and strategically robotic Neoliberal Thought Collective. Axiomatically, as the unsurpassed information processor of the entire species adapting to the surrounding environment of its mental universe, The Market is always correct, always optimal. As Mirowsky (2011) has emphasized, while neoliberals did not create the Internet, they immediately grasped its potential for their political project, and the Internet has increasingly come to function as the universal, all-encompassing environment for cognition and cultural evolution — accelerating processes of identity formation and dissolution, and the production of segmented, fragmented, entrepreneurial selves. The neurological obsessions of behavioral economics coalesce with Silicon Valley portrayals of a "hive mind," a "global brain," a "social operating system," to finally achieve on a planetary scale the synapses of Hayek's 1920 brain, looking backward to Victor Cousin's theological "interior observation" and forward to the infinite stock of capital embodied as

"neural impulses reflecting the structure of the world in which the central nervous system lives" (Hayek, 1982, p. 291) — which is now the world of Facebook, Amazon, Netflix, Google, and all the rest.

And so we can see one partial glimpse of this evolving smart city in the living, adaptive cognitive correlations of urban imaginations and anti-urban rage online, if we mine the YouTube API to map the audience-formation recommendations co-produced by humans watching while algorithms watch humans watching. Hayek taught us that rationality is unconscious for the individual, that competition as a discovery procedure operates at the sacle of the entire market. By this measure, Townsend's "Smart Cities" interview on *Russia Toda*y in early 2014 at first appears to be a weak species, with fewer than 700 views even now; but algorithmically mediated attentional evolution is about *correlations* and *exponential network effects*. Townsend is in a first-order network of 61 recommendations with a total audience of 17.8 million, and second-order networks reach 1,676 segments with an audience of 3.06 billion. And since everything in the networked online mental universe is connected, it's only a few short paths from Townsend's love of cities to *Dirty Harry*'s angry Western frontier, or Donald Trump's December 2015 "bombshell" Skype interview with the conspiracy theorist Alex Jones, whose thousands of videos have racked up more than two billion views. In the same month Trump was Skyping from New York, Michael Flynn was paid $45,000 to give a speech to *Russia Today* and sit next to Putin in Moscow, while the YouTube algorithms suggest you might also be interested in the old-fashioned small-town appeal of "Trump Digs Coal" in Charleston, West Virginia, or there's Flynn again, at the RNC in Cleveland, chanting with the crowd, "Lock Her Up!" If these connections seem to be nothing more than contingent, chaotic conceptions, recall that evolution requires the production of random variation, and Hayek assures us that it will all be sorted out by

The Market, the most powerful information processor ever evolved in the history of organic, inorganic, and cultural evolution. Such insights, along with the understanding of the central nervous system as nothing more than an ensemble of pattern-recognition algorithms, are the kinds of epiphanies that inspired PayPal founder and Facebook first investor Peter Thiel, whose plans for immortal transhumanist computational consciousness exemplify the radical evolution of American conservatism and its hijacking of progressive theories like intersectionality. In Cleveland, while Alex Jones had a plane fly over the city with a giant banner, "HILARY FOR PRISON 2016," Peter Thiel declared to the crowd, "I am proud to be gay. I am proud to be a Republican. But most of all, I am proud to be an American." This was just a few weeks after Milo Yiannopoulos, the charismatic tech editor who used the networked Neanderthal misogyny of Gamergate to make *Breitbart* the platform for the Alt-Right, appears on *Russia Today* and blends his Islam-bashing defense of Christian Western civilization with a fashion-forward flambouyant gay performance. "The best thing about gay culture is the mischief," he explains, and gays, "natural liberatarians," are gravitating to Trump, who is "probably the most pro-gay Presidential candidate in history"; in the aftermath of Orlando, Milo praises the LGBT gun rights organization, The Pink Pistols — their motto is "Pick on someone your own caliber." Welcome to the Hayekian hackathon of the smart city of American conservative cognition. The young genius Christopher Wylie, who grew up in Victoria, BC and went off to London with dreams of a doctorate in fashion prediction, somehow winds up as the key data science wizard at the heart of Cambridge Analytica, whose early clients for Facebook data-calibrated psychometric micro-targeting included John Bolton's Super-PAC. Wylie finds himself in a Manhattan townhouse with Steve Bannon and Robert Mercer, whose hedge-fund billions were accumulated through the hybrid of artificial intelligence and finance. Wylie, who describes himself as "the gay Canadian

vegan who somehow ended up creating 'Steve Bannon's psychological warfare mindfuck tool'" (quoted in Cadwalladr, 2018) praises Bannon as "Smart. Interesting. Really interested in ideas," "the only straight man I've ever talked to about feminist intersectional theory. He saw its relevance straightaway to the oppressions that conservative, young white men feel." (quoted in Cadwalladr, 2018). On *Russia Today*, Milo had playfully challenged the left's portrayal of various ethnoracial as well as sexual minority communities as oppressed, declaring that "being gay is a massive competitive advantage these days"; in that Manhattan apartment, Christopher Wylie recalls, Rebekah Mercer "loved me. She was like, 'Oh, we need more of your type on our side.'

'Your type?'

'The gays. She loved the gays. So did Steve [Bannon]. He saw us as early adopters. He figured, if you can get the gays on board, everyone else will follow. It's why he was so into the whole Milo [Yiannopoulos] thing." (quoted in Cadwalladr, 2018). Now, of course, *Russia Today* scrambles with recombinant remix reinterpretations of news clips, asserting that reports on the connections between Cambridge Analytica, Wikileaks, and Russia "must have been put together by a random word generator." RT's spin segment is now part of this first-order cognitive correlation matrix that has, as of this moment, more than 480 million views. Hayek is smiling. This is what the brilliant biologist saw in Vienna in 1920. From Moscow to London to New York, from Trump Digs Coal in Charleston and the conservative faithful in Cleveland to Dirty Harry's rage at the politically correct cucks of San Francisco, this is the evolution of conservative cognition. Billions of brains on an urban planet connected in a world-market mind through the self-replicating algorithms refined by the very best of behavioral economics and evolutionary neuroscience. Hayek didn't want to conserve anything. In the face of this

robotically accelerated evolution mutating at the speed of code, do you think you can protect any kind of history, custom, tradition, or civilization? Are you a conservative? Do you think you can conserve anything? You gotta ask yourself a question: 'Do I feel lucky?' Well, do ya, punk?

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