

## Hell Is Truth Seen Too Late

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People seem to be getting sick of hearing about neoliberalism, just around the time that the Left seems to be suffering dreadful defeats across the board, from the ballot box to the precincts of pop culture. In an earlier talk from 2014, I had attempted to address the qualms of historians in dealing with the political designation of neoliberalism (Mirowski 2014). Here, I instead take the occasion to engage a different audience interested in rethinking politics in perilous times. It is my impression that the disarray and indecision of how to respond to the pervasive rout of progressive movements in 2016 has been intimately bound up with a widespread lack of willingness to accord the neoliberal movement any responsibility for these defeats. I concede that, simultaneously, many other things are going on—from xenophobia to rampant racism to nostalgia for lost times—but there is nonetheless a distinct pattern to the economic and conceptual chicanery to which so many have fallen prey in the last year or so. Greater clarity in the battles that are coming will be necessary for pushback; for as Thomas Hobbes was reputed to have written, “Hell is truth seen too late.”

I also want to preface what follows with the caveat that I composed the first draft of this essay in February of 2017. At that time, it seemed there was a dearth of analysis concerning the main movements I seek to engage below—namely, an Accelerationist-style Marxism, so-called fake news, and the onset of “open science.” Yet, either due to participants’ suggestions at the *boundary 2* conference,<sup>1</sup> or else simply due to the larger momentum of discussion, I find that I am no longer in the avant-garde when it comes to these issues. Here I have attempted to take into account some of the work that appeared in the interim; but inevitably, it remains a document of its specific era.

### The N-Word<sup>2</sup>

I am heartened to say there have been some extremely insightful contributions to the understanding of neoliberalism and its major precepts in the past few years. Some of the most shrewd and discerning contributions have come from Will Davies (2014), Wendy Brown (2015), Ben Fink (2014), Melinda Cooper (2017) and Ben Jackson (2016). What makes these contributions stand out is that they have managed to move beyond the preliminary stage of “Look here! Neoliberalism really exists!” and, consequently, have begun to explore what makes the various programs tick in particular political settings. They combine an advanced level of historical research with the hermeneutic chops to detect the operation of political imaginaries in the dark corners of the body politic. Yet, just as we seemed to be getting somewhere with this literature, along comes a louder and more fractious faction who have taken to stridently denouncing the very notion of neoliberalism and denying that the phenomenon has ever existed. One rather expected something like this from the Right, since the Neoliberal Thought Collective (NTC) has existed under erasure since the 1950s, denying the doctrinal and organizational coherence, all the while actively pursuing both (Mirowski 2014; see also Shearmur 2015). What marks the contemporary dispute as pitched beyond the usual smoke screen is that some of the most insistent denials now appear to come from the Left of the political spectrum (Venugopal 2015; Dunn 2016; Grzanka et al. 2016; O’Neill and Weller 2016; Thrift 2016; Giraud 2016). In one of the lesser ironies of our

1. “Neoliberalism, Its Ontology and Genealogy: The Work and Context of Philip Mirowski,” *boundary 2* conference, University of Pittsburgh, March 17–18, 2017.

2. I heard Bruce Caldwell make this “joke” when discussing this literature with his comrades at the Mercatus Center.

befuddled age, just when the IMF begins to treat the political concept as befitting (muted) criticism, left-wing activists choose that precise moment to denounce it (Ostry et al. 2016). In the aftermath of the tremblors happening in 2016, from the political rise of fascist parties throughout Europe, the fallout from Brexit, and the American election of Donald Trump, it has been difficult not to regard this abnegation as one more symptom of the widespread disarray on the left, a flailing out against previous political verities. Some pundits recklessly asserting that Trump's takeover marks the "death of neoliberalism" in various news outlets does tend to demoralize those searching for a trustworthy political compass in a tempestuous world (West 2016; Fraser 2017; Aschoff 2017; Dumenil 2015).<sup>3</sup>

In practice, those suspicious of the analytical literature on neoliberalism tend to accuse it of focusing too intently on ideas as opposed to old-fashioned economic or political history, of treating the phenomenon as too impossibly monolithic and therefore resembling a single juggernaut crushing everything in its path, and, finally, of suppressing the diversity of individual conceptions of the politics that enrolls them as participants. I have witnessed more than one activist suggest that the very notion of such a thing as a neoliberal thought collective strikes such fear in the breast of the impressionable that it shamefully stymies their political action and should therefore be avoided at all costs. In this case, it seems a strange sort of magical thinking to insist that just because your own side currently lacks an elaborately articulated and highly connected set of social structures bent on political action and intellectual dissemination you must therefore believe your opponents are equally bereft in the very same manner. And since when did the Left become the primary expositors of a rigid methodological individualism, where the limited perspective of the individual agent was the only one deemed to be legitimate when it came to political discourse?

To a first approximation, I find it curious that the disaffected rarely confront the fact that similar complaints have been made about *any* analytical entity dealing with political phenomena, from "capitalism" to "liberalism" to "republicanism" to "libertarianism" and beyond. Each has been multivalent, a *mélange* of propositions, and subject to multiple interpretations through time. No one is more pathetic than a contemporary American trying to explain what it means to be a "liberal" these days. One suspects that the designation "neoliberalism" attracts surplus disdain of its nominal

3. There is a tendency to believe that governments with fascist tendencies necessarily abandon neoliberal policies. There is little historical evidence that one follows from the other. See Bel 2010.

opponents precisely because it embarrasses so many who were convinced their prior grasp of economic and political currents was so comprehensive and complete that no such movement could have caught them as wrong-footed as did this ideology. I am continually nonplussed that so many supposed activists respond with blank incomprehension when queried about whether they know what the Mont Pèlerin Society (MPS) is, or whether they have heard of the Atlas Foundation, or the Liberty Fund, or the Mercatus Center, or Heritage Action, or the Ethics and Public Policy Center, or the Federalist Society.<sup>4</sup>

Nonetheless, to be fair, mobilization of the term *neoliberalism* has grown uncomfortably sloppy among a subset of those on the left. Broad-sides have equated it to laissez-faire economics, market fundamentalism, libertarianism, globalization, biopolitics, financialization . . . thus the category may seem a frightful hodgepodge to those encountering it for the first time. However, the semantic slippage extends far beyond the precincts of mudslinging and slander. Even those authors who do make the effort of scholarly study of the NTC and come to understand its activities tend not to describe it in uniform terms, which induces frustration in those in search of simple straightforward definitions. For instance, when Wendy Brown (2015) writes about neoliberals, she highlights their agency in the political suppression and nullification of democracy. Melinda Cooper (2017) carefully documents how neoliberals have redefined gender and familial issues as the imposition of marital dependence as a prerequisite for the dismantling of the social welfare state. Ilana Gershon (2011a; 2011b) has championed the Foucauldian approach to neoliberalism as the elevation of entrepreneurialism of the self and has revealed how it works both online and in a job search. Will Davies (2014) started out describing neoliberalism as the disenchantment of politics by means of economics; but of late, he has argued that its conception of government has transmogrified from an earlier normative stance to one that is now openly punitive toward the impoverished and other nationalities (Davies 2016). Rob Van Horn has been indefatigable in his histories of the law and economics literature, and the ways in which neoliberals upended older liberal economic pieties, such as opposition to monopoly and skepticism toward intellectual property (Van Horn 2009; Van Horn and Klaes 2011). From an Olympian perspective, none of these characterizations strictly contradicts any of the others; but to an outsider, it may

4. This borders on unforgivable, given the outpouring of good recent work describing these entities. For the Federalist Society, see Hollis-Brusky 2017; for the Atlas Foundation, see Djelic and Mousavi, forthcoming.

sometimes seem that the n-word *neoliberalism* encountered in these literatures signifies excessively many diverse things to too many different people. Many on the left seem not able to shake the suspicion that anything passing as “neoliberalism” must be straightforwardly an economics god masquerading as a political god. Pervasive confusions concerning the contents of different schools of economic doctrine have compounded the problem, ranging from the conflation of the entire neoclassical school with neoliberalism to repression of the fact that appeals to the “economy” as prime mover of politics itself must be conditional upon some distinct school of economic theory. Those hostile to the neoliberal concept in favor of a simple alternative appeal to “capitalism” writ large thus unwittingly engage in the conceptual slovenliness that they seek to pin on their opponents.

I doubt if I could make headway to cajole the hardened Left deniers of the legitimacy of neoliberalism as a political category, but I will try to mitigate the creeping sense of unease by addressing the fundamental worry that “neoliberalism” is a portmanteologism, a fluffy ragbag of anything the Left wants to stuff into it. As I have suggested, the new scholarly literature is rich and suggestive, but it seems persistently to overlook one major common denominator of the NTC in particular, a fact that I find a little odd. Of the scholars cited above, few have been willing to fully take on board the notion that neoliberalism is not simply or exclusively an *economic* doctrine; at a deeper level, it is primarily a *philosophical credo*, which then gets elaborated through a potpourri of economic and political doctrines depending on geography and political circumstance.<sup>5</sup> The unity of the NTC derives primarily from its epistemological convictions and its organizational structures; its apparent diversity comes with the multiplicity of tenets of economics and politics that can be reconciled within it. In the first instance, it is not an epiphenomenon of some crude apologetics for the capitalist class; it turns out to be far more than that.

### How Neoliberalism Rendered Socialism Unthinkable

What is the philosophy that holds the neoliberal project together? It is primarily an image of humankind as rather slovenly and undependable cognitive agents, who can barely access their own internal principles of

5. This is directly contradictory to the supposedly useful “descriptive shell” of neoliberalism proposed by Venugopal 2015: “A broad indicator of the historical turn in macro-political economy” (182). When someone on the left suggests neoliberalism is elementary, it is time to put that book down. See Mirowski and Plehwe 2009.

ratiocination. This may seem a rather bleak perspective on the human prospect, dating back to the 1920s loss of faith in the rationality of the masses in the social sciences, popularized by journalists and intellectuals such as Walter Lippmann (see Purcell 1973; Lippmann 1937; 1965).<sup>6</sup> The way that many post–World War II social sciences managed to square the circle was to posit the emancipation of men from this state of confusion and superstition by means of “science” and, consequently, through the instrumentality of the scientific experts that would guide and supplement the polity. This reliance on the technocratic experts tended to resonate with the ambitions of midcentury socialists, who pictured themselves as imposing a rationality on the economy through “planning,” the premier technique for compelling order in an inherently disorderly world.

The hallmark of the NTC was that its members more or less accepted the inherited image of an addled and befuddled populace but thoroughly rejected any appeals to a scientific technocracy to instill some discipline in the masses. For them, the discombobulated masses were not a prescription for despair but rather the necessary compost out of which a spontaneous order might blossom. The primary way this would happen was through acknowledgment that “the market” was an information processor more powerful and more efficacious than any human being was or could ever be. The cretinous and nescient would propose; the market would dispose. In effect, the NTC believed if only the masses could learn to subordinate their ambitions and desires to market dictates, then their deficient understandings and flawed syllogisms would appear as convenient expedients smoothing the path to order, rather than as a political obstacle to be overcome, as in the technocratic orientation of postwar social sciences. In addition, conveniently, the Thought Collective would mobilize numerous institutional structures to nudge it down that path.

This innovation in the definition of the market was unprecedented in intellectual history and became the bulwark from which the attack on socialism was launched. Prior to the 1930s, markets had been portrayed as many things—police-governed confined areas for merchant activity, pipes through which a liquid “value” sloshed throughout the system, engines for the generation of a generic “surplus,” balances between forces of sellers and buyers, and in neoclassical economics, an analog for mechanics. Never

6. Back in those days, it was the pragmatists like John Dewey who battled this tendency. Contemporary philosophers have been less active in the forefront of modern resistance to neoliberalism, unfortunately. Perhaps this is one reason the modern literature on Foucault has grown so contentious of late.

before had they been defined by social theorists primarily as an engine for epistemic truth. The impact of this innovation only began to revise the microeconomic core of economic doctrines later, with a substantial lag.<sup>7</sup>

Although the NTC was composed of a diversity of thinkers, this key redefinition of the market explains why the cognoscenti still think of Friedrich Hayek as *primus inter pares*. Hayek was first to promote seriously the market as information processor, and he was first to realize this would provide a refutation of socialism that would handily fit on a 3x5 card. For him, socialist planning presupposed the planner knew more than the market; since that was impossible, so, too was socialist economics. It was this first commandment that spawned many of the other attitudes of the NTC, such as its uninhibited contempt for intellectuals (Hayek's "secondhand dealers in ideas" [1967: 178]), ridicule of experts, and disparagement of education in general. Others chimed in, after their own fashion. For instance, few remember that the single cause Milton Friedman felt so passionately about that he bequeathed his entire fortune to support it was the privatization and debasement of public schools. Nancy MacLean (2017) has recently stressed how destruction of state-sponsored education was central to the trajectory of James Buchanan. Much of George Stigler's work rested on a notion of optimal ignorance of the masses.<sup>8</sup> Friedman, as usual, dumbed down the Hayekian message for those with limited attention spans: "Businessmen, who may be bankrupted if they refuse to face facts, are one of the few groups that develop the habit of doing so. That is why, I have discovered repeatedly, the successful businessman is more open to new ideas . . . than the academic intellectual who prides himself on his alleged independence of thought" (Friedman 1978: xi, xiii).

I can understand why those on the left might be more fascinated by neoliberal structures of governmentality, or neoliberalism's impact on identity politics involving gender or race, or its conception of the entrepreneurial self; however, if you leave this root "political epistemology" out of your account, basically, you have omitted the essence of the neoliberal project. A key MPS member, James Buchanan, was quite explicit about this when addressing his brethren: "Professionally, economists have dominated the membership of the [MPS] Society from its founding, but the whole thrust of the Society, as initially expressed in its founding documents, has been

7. For more on this, see Mirowski and Nik-Khah 2017.

8. For Friedman, see the Milton Friedman Foundation, which recently changed its name to EdChoice: <https://www.edchoice.org/>. For Stigler, see Nik-Khah 2015; Mirowski 2013: 76 et seq.

toward elaborating the philosophical ideas without which a free society cannot exist. That is to say, political philosophy is what this Society has been, is, and ought to be all about.”<sup>9</sup>

This tendency on the left to avoid confrontation with the foundational nature of *philosophy* in the architecture of the NTC, and consequently to foster a predisposition to become mired in a general disinclination to understand the fundamental principles of an explicitly neoliberal economics, has led to the general dissatisfaction with the very notion of a neoliberal political project. That is, the antipathy toward neoliberalism on the left is due to a bad case of epistemology aversion. If opponents had instead attended to its central significance, they might have come to appreciate viscerally why socialism no longer seems a viable project in contemporary society. Such an appreciation would start with an acknowledgment that the main motive behind the socialist imperative in its many guises was to impose “rationality” upon a putatively irrational and destructive market system. From Robert Owen to Sismondi through Marx and thence through the Labor Party, the Social Democrats and the various Internationales, and well into the twentieth century with Christian socialists like Karl Polanyi, the socialists’ argument rested on an Enlightenment conviction that markets produced debilitating consequences that could only be rectified by intelligent planning and intervention.<sup>10</sup> The nature of those interventions, of course, was all over the map—from “market socialists” tinkering around the edges to restore markets to their “true” functions, to political defense of real wages, to full socialization of the means of production and their operation by some state entity. The conviction that human intentionality and quest for the truth would underwrite the Kantian assumption of rational self-determination of the populace held them together. They conjectured that brutish and depraved suppression of the masses would give way before enlightened policies, in the fullness of time. Socialism was thus enshrined as the principle of autonomy and liberty writ large.

The neoliberal philosophy developed over the decades since the 1940s constituted a profound break from this entire tradition, with the divorce leaving Enlightenment conceptions of reform stranded, hollow, and ineffectual. Neoliberals came to hive off “liberty” from autonomy and Kantian

9. James Buchanan, Address to the 1984 MPS meeting, pp.1–2; copy in the Liberaal Archief, Ghent Belgium. Buchanan’s attitudes are further discussed in MacLean 2017.

10. See, for instance, Landauer 1959. For the history of different notions of rationality leading to different political programs, written from the vantage point of a Frankfurt School orientation, see Jay 2016.



self-determination, and the way they achieved this was to shift the center of gravity of epistemology. The decisive move was to question whether people legitimately could tell if they were “free.” If, as we have seen, they believed the vast mass of people were not cognitively capable of rational self-determination,<sup>11</sup> then the only arbiter of dependable knowledge in a neoliberal world devolves to the market. Furthermore, older attempts to offset any such cognitive debility by means of state-supported education, public libraries, and broadcast outlets were to be dismantled and debased into privatized get-rich-quick schemes. The notion that one might strive to take the future in hand and bend it to one’s will was treated as a species of delusion that had to be wrung out of the population (although, significantly, not out of the card-carrying members of the NTC itself). Hayek himself loudly and repeatedly sought to banish the “rationalist” element from earlier liberalism. Instead, the planner was to be supplanted by the figure of the entrepreneur, relegated to bask in the unknowable risk of a chaotic future, prostrating himself before the inscrutable market with its Delphic valuations. Education, culture, and the whole panoply of signifying gestures no longer were thought to have any political function in a democracy and so became demoted to little more than meaningless diversions in the marketplace of ideas, lumps of “human capital” (or infotainment) that might or might not be indifferently purchased. “Freedom” thus was forced onto the procrustean bed of market activity; “truth” became unmoored from argumentation.

It was a mistake to claim that socialism had been empirically refuted in such a world, since “facts” could no longer be taken for granted, at least when it came to the neoliberals. (Political failure was a different matter.) What happened instead was that neoliberal claims stripped socialism of any rational philosophical basis; the erstwhile ambitions of socialist political movements no longer made any sense in the brave new neoliberal framework. It would be one thing if socialist intervention failed provisionally due to a lack of understanding of fundamentally knowable social structures; it would be a different washout altogether if it failed, due to *hubris*, in seeking to comprehend something that *Homo sapiens* could never fully know. From this perspective, socialism has nothing to accomplish and can be dismissed as a relic from an earlier era in which magical powers of ratiocination were thought to be the natural endowment of all humankind.

11. “‘Learning from experience,’ among men no less than among animals, is a process not primarily of reasoning but of the observance, spreading, transmission and development of practices” (Hayek 1973: 18).

I hope my readers can begin to see that once such a worldview began to enjoy a beachhead in modern culture, then the next fortification to fall was older notions of “truth.” While one might explore this consequence from many perspectives, it might serve to set the current inquiry in motion by accessing the standard Philosophy 101 definition as “justified true belief.” For a neoliberal, any notions of “justification” based on internal cognition of the agent in question would be undependable at minimum and superfluous in most cases. As we have already observed, Friedman was convinced truth as correspondence to a mind-independent reality was more or less absent in those who devoted their life to intellectual pursuits. Hayek propounded a theory of mind where rationality was not the result of conscious self-criticism. In short, when truth is merely “whatever sells,” then it ceases to exert any independent regulatory force in epistemology. It is necessary to insist the neoliberals pioneered this “relativism” long before the advent of postmodernism. However much they might protest that they hearken back to the eighteenth century in political philosophy, in practice a major consequence of the neoliberal doctrine is a full-throated repudiation of the Enlightenment project. Some on the left have suggested this in the recent past. Here, for example, is the rueful observation of George Lakoff: “Also, within traditional liberalism you have a history of rational thought that was born out of the Enlightenment: all meanings should be literal, and everything should follow logically. So if you just tell people the facts, that should be enough—the truth shall set you free. All people are fully rational, so if you tell them the truth, they should reach the right conclusions. That, of course, has been a disaster.”<sup>12</sup>

One important consequence of this repudiation is the precept that one should always deal with the political mobilization of the populace governed by the proviso that the populace is epistemically challenged and adjust political tactics to make full use of their deficiencies. Given that this is a direct implication of the core doctrines of neoliberalism, it is not merely garden-variety cynical manipulation or an age-old resort to propaganda; rather, it is a direct corollary of the precept that the market is a superior information processor. It took the NTC a while to take this precept

12. George Lakoff, quoted in Powell 2003. This comment was made *almost fifteen years ago*. See also Taibbi 2017: “A lot of us have this idea that the truth has a kind of magical power, that if the truth is out there it will convince the country to unite behind it. But this isn’t so. People can simply decide to not believe a version of events now. They can shop for information the same way they’d shop for everything else, and they pick the reality they find most pleasing.”

to heart,<sup>13</sup> but now it has proven central to almost all its political activities. More important, it is a doctrine that the contemporary Left seems unable to take seriously, much less to confront its existence; and this, I believe, is one major motive behind the denial of the very existence of a neoliberal project. Whatever their political stripe, most of that Left adheres to the Enlightenment conception of epistemology and cannot imagine themselves stranded in a world so barren of graspable truth. Only a very few figures opposed to neoliberalism have sought to speculate how one should pursue politics in this kind of cognition-vacated zone. More than a decade ago, Lakoff, for one, sought to mimic one of the hallmark practices of the NTC by founding a think tank to discuss and evaluate how politics from the left should respond to a vertiginous world where truth is so slippery. While not endorsing his particular resort to neuropsychology and his “moral scripts” as adequate theoretical resources, it is nonetheless indicative that his attempt to raise the question did not garner any traction on the left: his Rockridge Institute was forced to close in April 2008 due to a lack of funding.

Strangely, the NTC nurtures a much better appreciation of the relationship of ideas to praxis than the nominal Left. The NTC builds out intercalated organizations to work from central doctrinal principles to targeted specialized interventions, informed by basic philosophical convictions. In other words, they resort to intentional coordination to offset any cognitive deficits within their own ranks. Their alignments of individual components are strong because they depend for funding, support, and man power from the contiguous organizations: for instance, MPS → Heritage → Heritage Action → Fox News, or MPS → Cato Institute → Kochpac → Competitive Enterprise Institute → Fueling US Forward,<sup>14</sup> or Harvard Law → Federalist Society → Bush Justice Department → Supreme Court,<sup>15</sup> with separate organizations dedicated to searching out new recruits to man the barricades. Organizational interlock produces intellectual consonance. The Left, by contrast, depends on a few rogue individual intellectual entrepreneurs briefly to concoct freestanding and failing “Institutes” that half-heartedly

13. On early dissention within the MPS, see Mirowski 2013: 70–72. The development of a conscious policy of agnotology has been documented in the history of science literature as the forging of the “tobacco strategy” in the 1950s and its later application to issues such as global warming, Star Wars, and much else. On this, see Oreskes and Conway 2010.

14. See Tabuchi 2017; Mayer 2016. Kochpac is the political action committee of Koch Industries.

15. See <https://www.biography.com/people/neil-gorsuch-020617>.

“retail” this or that idea, with the fickle blessing of one or two rich patrons. Those patrons seem to believe in a species of “spontaneous order” in the realm of ideas, which is one reason for their abysmal track record.

Vague denunciations of neoliberalism have proven sadly inadequate in our current age of Trump. The time has come to explore how neoliberal epistemology has had immediate consequences for political organization on the ground. I will now turn to three possible repercussions for the future of political mobilization: the paralysis of contemporary Marxism, the fortification of fake news in social media, and the degradation of modern science.

### **How Neoliberalism Rendered Marxism Untenable**

It is no accident that the majority of those on the left who denounce neoliberalism as lacking solidity tend to either be Marxists or lean upon Marxist concepts to underpin their alternative political scenarios. As one might suspect, Marxists are inclined to look down on discussions of philosophy or political theory as dangerously coquetting with idealism; once one understands the basic operations of capitalism, they say, it does not really matter what stories their opponents tell.<sup>16</sup> They also affect a rather tough-minded attitude that ideas only matter tactically, not how they may structure perceptions of reality.<sup>17</sup> In this latter respect, I think we might take them at their word and ask just how effective have they been in countering the neoliberal onslaught over the last few decades? With a little bit of background, I believe that we might come to see that the residual Marxism of the Left is a big part of the problem because no one committed to Marxist categories can admit in good conscience that neoliberalism really exists, much less mount a serious opposition to it.

The beginning of political wisdom is to appreciate that neoliberalism’s doctrinal intent was to dissolve Marxism from within. While the history of Marxism has been at least as varied as that of neoclassical eco-

16. See, for instance, Heideman 2014: “With a theory of capitalism that emphasizes the way the structure of the system makes it both necessary and very difficult for most people to organize to advance their interests, it becomes very easy to explain the persistence of a low level of popular mobilization against neoliberalism in the context of a weakened left.” One might suspect Heideman might at least regret part of his review now: “The Republican Party, while capable of enacting all kinds of sadistic policies on the state level, has remained in a state of disarray on the national level since the 2006 congressional elections.”

17. See Dunn 2016. This, of course, abstracts away the work of Antonio Gramsci and of the Frankfurt School.

nomics, or indeed neoliberalism itself, it nevertheless depends on a certain common denominator of theoretical categories: “labor” certainly, historical materialism, surplus value, exploitation, class and proletariat, modes of production, and perhaps alienation. While different subsets of Marxists hold varying degrees of allegiance to each individual concept, they are all united behind the existence of laws of the economy, which depend on the extraction of surplus value from the proletariat in production and the circulation of value through the market, which creates the preconditions for further surplus extraction. Sometimes Marxists accord the labor theory of value even greater significance, as revealing the mechanism by which capitalism will undermine its own operation. Most Marxists will admit their doctrines were historically rooted in classical political economy, which itself sought laws of value grounded in the production process; they also believed in a falling rate of profit, in turn, predicated upon exclusive economic class distinctions. Some Marxists appeal to the young Marx and notions of alienation to explain the perceptions of the different classes, and most intently, the mindset of the proletariat.

One way to criticize Marxism is to point out that conceptions of value in economics have moved on dramatically since the middle of the nineteenth century. It is rare for contemporary economists to propound that physical production is the *fons et origo* of economic value, and worse still, the very notion that value is a substance that somehow inhabits the commodity in its peregrinations is so obsolete that it is found almost nowhere anymore in modern culture. Another way to criticize Marx is to point out the inconsistencies internal to his system.<sup>18</sup> The roster of logical contradictions is well known to the point of tedium: the transformation problem, the absence of lockstep progression in the modes of production, the problems of the reproduction of labor power, the indeterminate definition of abstract labor, the flaws in the systems of expanded reproduction, and so forth. All of these complaints have some legitimacy, but that is not the orientation of my current objections. Instead, I want to insist that, once a neoliberal worldview takes hold, it ruthlessly empties all Marxist categories of their cogency, and it literally becomes impossible to think like a Marxist.

18. In an early work (Mirowski 1989), I argued that there was an internal contradiction in Marx’s theory of value itself: sometimes it was analytically treated like an embodied substance and in other instances, as a virtual “field” concept. This did not indict Marx for an oversight but rather attempted to situate him in a larger cultural transformation of the meaning of value during his lifetime. For a more conventional bill of indictment, see Howard and King 1985.

Let us start with the central term, *labor*. Historically, from John Locke onward, “labor” was the human activity that both created and justified private property and grounded natural “rights.” Hence, in Marx, it is the core precept behind the very notion of “exploitation”—that is, an unjust annexation of the fruits of labor. However, the neoliberals have utterly repudiated that entire tradition, beginning with MPS member Gary Becker’s concept of “human capital.” Human capital obliterates labor by reducing everything a person does to tendentious manifestations of capital and erases any residuum of the “labor process.” Human capital lays waste to classical distinctions between production and circulation to such an extent that there no longer is any marxisant “labor process”; all there is left is a fragmented self who is at once the business, the raw material, the product, the clientele, and the customer of her own life. There exists nothing more than a jumble of assets to be invested, managed, and developed, and an inventory of liabilities to be pruned, outsourced, shorted, and minimized. Indeed, the very human self disappears up its nonexistent pilot, not to mention that it loses track of distinct boundaries vis-à-vis other selves.<sup>19</sup> Rather than congealed labor, “capital” gets confused with anything that can be priced and is certainly never denominated in “hours.” In short, “labor” ceases to exist as a distinct category, leaving the Marxist seriously at sea.<sup>20</sup>

Neoliberals possess an arsenal of arguments, including that socialism cannot even exist as a political category; I discussed those in the previous section. The strident insistence that no such entity as “society” exists, coupled with the consequent fragmentation of the individual self, renders the very notion of economic or social classes without any identifiable referent.<sup>21</sup> In any event, the further innovation of the so-called sharing economy makes it very hard for any individual to regard themselves as a member of the proletariat—that is, if they were not already revulsed by the very possibility in the first place. Everyone is just efficiently monetizing their meager stock of “capital.” There appears to be no separate “capitalist class” as such.

19. Here I refer to Becker’s practice of inscribing the welfare of others in the supposedly individual “utility function.” Outside of Becker, this also explains the fondness of orthodox mathematical models for single agent setups.

20. “Labor and value have become bio-political in the sense that living and producing tend to become indistinguishable. . . . [The biopolitical] undermine all traditional mechanisms of accounting” (Hardt and Negri 2004: 148).

21. Wendy Brown (2016) discusses how Foucault’s discussion of neoliberalism directly rules out any Marxian approach to capitalism, particularly with regard to concepts of truth.

Nevertheless, the core philosophical tenet of the market as superior information processor delivers the final coup de grâce to any Marxist argument. It is widely understood that Marx was an advocate of a much older (almost Aristotelian) image of the market as a machine that simply moves commodities around to their “more natural” place. It was central to Marx’s precept that profit was not generated in exchange, only in production. At most, market exchange might shift surplus value around between industries to equalize profit rates in competition (and thus produce the transformation problem) but never actually augment or diminish the total magnitude of value in the system. Without the erstwhile foundational metaphor of the market as big conveyor belt, combined with a separate distinct sphere of production, most of the major theoretical lessons of the Marxist system would be irrevocably lost. There is no such thing as Marxist “exploitation” if profit can be generated de novo by simple exchange.<sup>22</sup>

Here is where the metamorphosis of the market into information processor sounds the death knell. If the market primarily deals in “ideas” or “information,” then Marxism is unceremoniously sidelined, if only because the Marxist tradition has suffered serial insecurity about how to deal with those entities. Believers in historical materialism used to pride themselves on their insistence that most intellectual activity took place in the “superstructure,” and as such, was mere artifact of the so-called mode of production of the real economy. Yet, even if they were more catholic than that when it came to matters of the intellect, all sorts of things now dubbed “services” were deemed as existing outside the Marxist laws of the economy; Marx himself, in *Capital*, treated all manner of processes of circulation, accounting, finance, and so forth as “unproductive” of value. Marx’s frame could never consider the notion of a market engaged in the conveyance and, God forbid, validation of ideas. After all, what would be the “labor value” of a spurious idea, in either hours or more abstract labor? Keep in mind this was not to be determined by its use value but, rather, by the amount of labor that went into its conception.

The portrait of the market as information processor, with its attendant notions of the “knowledge economy,” turned out to be antipathetic to any Marxist framing of the market. Thus, it follows that once neoliberals came to dominate the cultural discourse about the nature of the market, which had solidified by the turn of the millennium, some Marxists finally

22. “Today, in the paradigm of immaterial production, the theory of value cannot be conceived in terms of measured quantities of time, and so exploitation cannot be understood in these terms” (Hardt and Negri 2004: 150).

registered that their entire worldview was under attack. A few of the more famous, such as Michael Hardt and Antonio Negri, admitted that in this new world, “the temporal unity of labor as the basic measure of value today makes no sense” (Hardt and Negri 2004: 145). Nonetheless, they proceeded to theorize something they and many in the Autonomist Marxist movement call “cognitive capitalism” (see Hardt and Negri 2004; Moulier-Boutang 2012; Wark 2015).<sup>23</sup> This involved positing a novel type of “mode of production” never before imagined in Marx, with almost all of the key Marxist terms such as *exploitation* and *capital* revised beyond all recognition. This, in turn, has given rise to a large literature, which I shall not attempt to summarize here.

An intellectual historian realizes that all schools of thought perform attempt accommodations to changing circumstances. That is not the substance of the current complaint. The points I would like to make about these particular developments are:

1. The felt need to theorize a “cognitive capitalism” was a direct response to the acid impact of neoliberalism on the heritage of an older Marxism.
2. By all evidence, the Autonomist Marxist movement and their fellow travelers did not fully understand the fundamental role of neoliberalism in their discomfort, compounding an earlier doctrinal disconnect.
3. Theorists of cognitive capitalism ended up in an uninformed attempt to graft various neoliberal theoretical concepts (“information economy,” “rent-seeking”) onto a prior Marxist tradition, with almost no appreciation of the havoc they wrought on the very economic logic of the Marxian theory.
4. Autonomists’ actions led to a largely directionless literature of critique of such revisionism, which has misunderstood what is at stake in its quest to “save” Marxism from the Autonomist wave.

One wonders, for instance, if modern Marxists even realize their flirtation with theories of “rent-seeking” are pale echoes of the original Virginia School of the NTC (see, e.g., Buchanan 2001: 60). Worse, can they appreciate the perilous consequences of their naïve appeals to “openness”? “One approach to understanding the democracy of the multitude, then, is as an open source society” (Hardt and Negri 2004: 340). The rather sad

23. For critique, see Caffentzis 2013.



maxim drawn from this sequence of events is that, when critics of the literature on neoliberalism simply presume that Marxism constitutes a viable alternative account of recent economic developments, they need to get in touch with the bigger picture of intellectual history before they rest content in their complacency.

### The Actual Meaning of Fake News

After the election of Donald Trump, both bloggers and the legacy media underwent a paroxysm of anguish and distress over the existence of something they started calling “fake news.” In the scrum of postelection commentary, any number of individuals and newspapers took up the term and then attempted to impose their own idiosyncratic definition, all the while suggesting that something profound had just been discovered. For some, it was shorthand for the capacities of the nefarious Russians interfering with the election; for others, it was a symptom of the final collapse of the mainstream media, which had been festering for a decade or so; for still others, it signified the advent of a “posttruth” era brought about by social media;<sup>24</sup> and for yet others, there was the glimmer that something about the internet had changed the very way that people encountered the news and its interpretations. Almost no one framed this as a crisis in epistemology, but we should not expect the just-in-time journalists and bloggers to engage the topic at the needed level of sophistication.

We shall shortly return to the problem of definition, but before that, it will be instructive to note that, *just as in the case of neoliberalism itself*, a number of self-identified Left writers jumped in the fray to insist that this sinister entity “fake news” did not really exist. I quote a few representative instances:

I think this discussion about fake news is largely a bunch of bullshit. It’s become this category, nobody knows exactly what it means, and it’s become applied to everything from stuff that’s intentionally deceptive to stuff where people are trying to get the answer right but they get something wrong. . . . I never use the term “fake news.” (Bolotnikova 2016)

[Left writers] also don’t seem to know how we entered this post-fact world or when the factual age, which must have preceded it,

24. See Ball 2017; boyd 2017; Bolotnikova 2016. And that’s just the *B*’s.

ended. Was it in the 2000s, when the whole world debated imaginary weapons of mass destruction before being conned into war? Or was it in the 1990s, when the Lewinsky scandal dominated newspapers, and the United States panicked over superpredators and crack babies? Perhaps it was really Reagan's 1980s, with its secret, Central American wars, the Iran-Contra scandal, and the denial of the AIDS epidemic. Or maybe we need to go back even further: to Nixon's not-a-crook 1970s, to George Wallace's law-and-order 1960s, or to McCarthy's redbaiting 1950s.

As it happens, the facts simply don't support the diagnosis that we have suddenly entered a post-factual landscape. Reactionary panics, collective hysteria, and political manipulation have been with us for a long time, and we should be skeptical of claims about the epidemic of Russian-backed fake news or the idea that social media lost Hillary the election. In fact, liberals' nostalgia for factual politics seems designed to mask their own fraught relationship with the truth. (Hansen and Stahl 2016)

Does the reader begin to appreciate the parallels to previous sections? Something seems to crop up that appears to unnerve and wrong-foot the political Left, and the response forthcoming is to deny that the phenomenon "really" exists and opine that "fake news is but one symptom of a shift back to historical norms, and recent hyperventilating mimics reactions from the past" (Uberti 2016). The similarities of Left reactions to neoliberalism and fake news as real phenomena are doubly intriguing because the repetition explicitly concerns the weaknesses of their own Enlightenment epistemology that so many are so loathe to address. Moreover, once the members of the NTC smell blood, they jump right in and *agree with* this Left sentiment, exposing them to further embarrassment: "Fake news is just another fake excuse for their failed agenda."<sup>25</sup> Donald Trump, quick on the social media uptake, in his January 11, 2017, news conference, accused CNN of being "fake news." Since then, the "fake news" epithet has originated increasingly from the Right, while those on the left dither and deny.

It has long been standard operating practice that the Right appropriates terminology from their opponents quickly to turn it around in a tu quoque launched as reproach, in part to distract attention from their original sins. It happened with the term *political correctness*, and with *identity politics*, and now it has happened with *fake news*. The fact that the Right

25. Laura Ingraham, quoted in Peters 2016.

has been nimble in the expropriation of epithets does not discount the fact that there may nonetheless be something here that is revealing about the core beliefs of the NTC.

To escape this rather uninformative free-for-all, we must situate the phenomenon of fake news squarely within the neoliberal project. We must show that the solution to the imbroglio is not a redoubled dose of more so-called fact-checking but rather analysis of how organizational structures meld with their characteristic reification of the market as superior information processor to produce a weaponized version of discombobulation. One can only agree with the founder of the dedicated fact-checking website Snopes, who has said, “Fake news was [originally] a term specifically about people who purposely fabricated stories for clicks and revenue. Now it includes bad reporting, slanted journalism and outright propaganda. And I think we’re doing a disservice to lump all those things together.”<sup>26</sup>

Recall that neoliberalism predicates itself on the observation that most humans are one or two bottles shy of a six-pack when it comes to rational thought. Hence, anyone who had read Hayek, such as Cass Sunstein, long ago projected that the internet would promote the isolation of people within their own filter bubbles and that this might have implications for the way politics would play out in the future (Sunstein 2007). Sunstein’s reading of the situation was characteristically superficial, leading to his own prescription that people might be “nudged” toward certain political activities without realizing that they were being manipulated by their political overlords. Others, starting from the same premise, took the position that the internet just naturally tended to degenerate into dreck, especially because so much of it came to depend on “user generated content [UGC]” (Feldman 2016). Neoliberals do not mind blaming any debilitating epistemic fallout on the agents themselves because it reinforces the message that the market just gives the masses whatever they want. Here, however, is where some on the left attempt to push back. Evgeny Morozov, for one, insists that the onus rests solidly on the economic organization of the platforms that structure internet activity (2013). While this points us in a promising direction to understand the neoliberal character of fake news, the indictment may still be misleading: Is the dumbing down of the populace a mere unintended natural consequence of the pursuit of profit, an unfortunate by-product of progress, or is it something else?

The documentary filmmaker Adam Curtis has long been warning us that something much larger and more pervasive has been going on well

26. David Mikkelson, quoted in Peters 2016. This seems also the position of Ball 2017.

before the contemporary moment of frenzy over posttruth. As he puts it, “We live with a constant vaudeville of contradictory stories that makes it impossible for any real opposition to emerge, because they can’t counter it with a coherent narrative of their own.”<sup>27</sup> Curtis finds one incisive theoretical discussion of the new regime in the work of the Russian Vladimir Surkov:

[The pervasive] defeatist response has become a central part of a new system of political control—and to understand how this is happening you have to look to Russia and to a man called Vladislav Surkov who is a hero of our time. Surkov is one of President Putin’s advisors and has helped him maintain his power for fifteen years, but he has done it in a very new way. He came originally from the avant-garde art world, and those who have studied his career say that what Surkov has done is import ideas from conceptual art into the very heart of politics.

His aim is to undermine people’s perception of the world so they never know what is really happening. Surkov turned Russian politics into a bewildering, constantly-changing piece of theatre: he sponsored all kinds of groups, from Neo-Nazi skin-heads to liberal human rights groups, he even backed parties that were opposed to President Putin. But the key thing was that Surkov then let it be known that this was what he was doing, which meant that no one was sure what was real or fake.

As one journalist put it, “It’s a strategy of power that keeps any opposition constantly confused, a ceaseless shape-shifting that is unstoppable because it’s indefinable,” which is exactly what Surkov is alleged to have done in the Ukraine this year. In typical fashion as the war began Surkov published a short story about something he called Non-Linear War, a war where you never know what the enemy are really up to or even who they are. The underlying aim Surkov says is not to win the war but to use the conflict to create a constant state of destabilized perception in order to manage and control.<sup>28</sup>

27. The quote comes from his most recent film, *Hypernormalization*, which can be found in the archive of his films at [thoughtmaybe.com](http://thoughtmaybe.com).

28. Transcript from Adam Curtis’s film *Oh Dearism II* (BBC, 2014), <http://thoughtmaybe.com/by/adam-curtis/>. For more on Surkhov, see Pomerantsev 2014: “Surkov likes to invoke the new postmodern texts just translated into Russian, the breakdown of grand narratives, the impossibility of truth, how everything is only ‘simulacrum’ and ‘simulacra’ . . . and then in the next moment he says how he despises relativism and loves conservatism, before quoting Allen Ginsberg’s ‘Sunflower Sutra,’ in English and by heart.”

Here Curtis suggests the approach derives from the traditions of 1980s conceptual art, but in his earlier films, he sought the inspirations in political developments of neoliberalism.<sup>29</sup> While one sector of recent punditry (at least in the United States in 2017) seeks to pin the practice of “fake news” on the Russians, in a manner similar to Curtis, it may be more precise and more comprehensive to regard its advent as a distinctly global phenomenon, with earlier roots.<sup>30</sup> Of course, falsehoods, propaganda, and misinformation have been with us since time immemorial, but what Curtis and others point toward is something far more insidious than George Orwell’s Ministry of Truth. Once the neoliberal image of the market as both means of conveyance and validation of ideas took hold, then it consequently shaped and informed changes in the very means and conduct of argumentation in general. Befuddlement became an active political strategy very different from the top-down broadcast model of early twentieth-century “propaganda.” The recent fondness for Orwell’s *1984* as master narrative turns out to be another red herring. Now, disinformation rests on the creation of a fog of confusion and disillusion, and less directly on straightforward media manipulation (the bugaboo of the nostalgic Left) than the harvesting through social media of the inchoate folderol of the general populace, subsequently feeding it back to the masses through social media platforms like Facebook, Twitter, and new model “journalism.” Dissimulation rechanneled becomes its own special “spontaneous disorder.”

While there have been technological developments that fostered this innovation, it is far more important to understand the political theory that underpins this New World Disorder. Conveniently, discussions of what the adherence to their doctrine of a marketplace of ideas would mean for public media and the provision of news and entertainment happened to have been topics of deep concern for many members of the early Mont Pèlerin Society. Here I will just briefly give a taste of four such deliberations to suggest the possible continuities between the NTC and more recent developments in social media. I shall briefly touch on the work of Leo Strauss, Ronald Coase, James Buchanan, and George Stigler.

Strauss was not a member of the MPS but did have substantial interactions with Hayek and other neoliberals during his tenure at Chicago.<sup>31</sup> The shared presuppositions of Strauss and someone like Hayek do seem substantial at first glance. As Edward Banfield wrote, “It was evident to

29. See, in particular, *The Trap* (2007) and *The Century of the Self* (2005).

30. For a similar argument, see Mejias and Vokuev 2017.

31. His importance for the neoliberals is suggested in Mirowski 2014.

Strauss that men have not become wiser than they were in the past and that no amount of enlightenment can ever bridge the natural gulf between the wise and the unwise” (1991: 496). This was the epistemic position of many members of the MPS, such as the later Hayek or Stigler. Strauss was deeply concerned that liberalism had great trouble in justifying its own normative commitments, a worry he shared with Hayek, Buchanan, and other MPS members. Strauss was suspicious of grounding politics in scientific knowledge, as had been Hayek in his wartime work *The Counter-Revolution of Science* (1952). More to the point, Strauss was deeply pessimistic about the self-sufficiency of human reason to guarantee political progress.

The most notorious doctrine of Strauss, and the one clearly relevant to our concern with fake news, is his claims about the place of esotericism in the theory of politics. Strauss started out reading ancient authors such as Maimonides and Spinoza in the late 1930s, considering the conflict between the dictates of revelation and the claims of reason in political thought. In his key essays, collected together as *Persecution and the Art of Writing* (1952), he argued that when reading these premodern thinkers, it is necessary to read between the lines. He proposed that those writers were concerned with the conflict between the quest for truth and the strictures of society; they may seem to propound one thing sanctioned by law and culture but in fact expect a second more attuned set of readers to take away a different message, sometimes the opposite of what appears to be the thesis. Thus, the majority will take away one message, while simultaneously a specially prepared philosophical elite may be able to glean a different, esoteric message, a secret teaching. In the case of Maimonides, it was actual persecution of Jews that summoned forth the need to resort to a double meaning in textual expression, but he later extended the demands of esoteric knowledge to all those who dealt with the philosophy of law. In effect, the exterior literal meaning of the law serves to sustain a political community, which requires fealty to particular forms of behavior and belief, whereas a different esoteric meaning of the law is a matter of philosophical exegesis only for those capable of handling such speculation responsibly. Multiple contradictory messages serve to strengthen the polity, according to Strauss.

Coase, an economist and MPS member, went on the attack of the British Broadcasting Corporation (BBC) rather early in his career, well before he became famous for his argument that public goods do not really exist. As might be expected, the BBC’s attempt to set standards of

discourse in the public sphere in Britain deeply offended Coase, and he resorted to techniques of red-baiting to disparage the very existence of the public broadcasting system: “As it was expressed by the reviewer of Mr. Reith’s book in the *Times Literary Supplement*, to employ broadcasting for ‘the dissemination of the shoddy, the vulgar and the sensational would be blasphemy against human nature.’ . . . [This] argument—that certain demands are unworthy of being met—implies a philosophy which we now call totalitarian” (Coase 1950: 190).

Coase was convinced that the masses should be provided with as much of the “shoddy, the vulgar and the sensational” as they could stomach, and then some. He regarded as anathema the notion that some entity like the state might curate the quality of what was available through a public channel, in the interest of setting standards for public discourse and political debate: the market would more capably sort out what people could and should know all by itself.

A third significant figure was the economist and MPS member Buchanan. Buchanan was not much concerned with the shape of the media to the extent of Coase, but he did offer one response to the question that tormented all the MPS members: If their understanding of the correct way forward is correct, then why do the intellectuals and vast mass of the public not simply acknowledge that fact? Ultimately, said Buchanan, the Achilles’ heel of their project was the ingrained cognitive deficiencies of the great mass of humanity: “The monumental scientific error that socialism embodied would never have attained its practical successes without the acquiescent support that was grounded in ascientific and unreasoned public attitudes” (2001: 269). This conviction that people are leaky untrustworthy vessels was widespread among the NTC in the later twentieth century, but the pressing question was how to reconcile this unfortunate fact with their core doctrine that the marketplace of ideas gives everyone whatever they want and what they deserve. Some, like Milton Friedman, opted for wishful thinking: supposedly, if someone with the debating skills of Friedman patiently explained to people the error of their ways, then they would just naturally come round to the neoliberal position in the fullness of time. Others, such as MPS member Stigler, were attuned to the inconsistency of this position, and argued for a different type of response.

Stigler believed that there was nothing to do about the debased and vulgar predispositions of the populace; one must simply take them as given. “I cannot believe that any amount of economic training would wholly eliminate the instinctive dislike of a system of organizing economic

life through the search for profits” (Stigler 1963: 94). Markets simply pandered to the lowest common denominator, and, in fact, this should only be encouraged. The way forward was not to give the people more of the dreck that they wanted but instead to convene a small elite of like-minded thinkers who would *anticipate what their rich patrons would need to think in the future* and produce these doctrines *avant la lettre* in order to bring about the society that would eventually voluntarily support the ideal market. Folderol and vulgar sensationalism should be promoted for the masses, cabalistic wisdom for a small haut monde, Leo Strauss for economists. Stigler could never bring himself to admit that this would implicitly involve manipulating the desires of their target population, but his followers proved more than willing to run roughshod over that scruple.<sup>32</sup> Note well that the epistemic evolution of the NTC eventually took its fundamental inspiration from Stigler’s vision and not that of, say, Friedman.

That brings us back to the modern frenzy over fake news. The NTC could not have anticipated it back in the 1960s, but the marketization of the internet turned out to be the culmination of Stigler’s vision of an ecology of mass attention. Their political project was neither ideological nor rhetorical. They did not convince anyone of the superiority of the market for society in any didactic sense. Rather they used the market as an amplifier to recycle the vulgarity, twaddle, gibberish, and overall noise back into the public that generates it in the first place, in a cybernetic feedback loop, to such an extent that the people have no clue what is actually going on in their own world. As the neoliberal journalist Jeffrey Lord said in 2016, “I honestly don’t think this fact-checking business—as we’re all into this—is anything more than, you know, one more sort of out-of-touch, elitist, media-type thing. I don’t think people out here in America care. What they care about are what the candidates say” (Borchers 2016).<sup>33</sup>

The aim is not nihilism for the hell of it but rather represents the pursuit of two objectives dear to the NTC: (1) the transformation of the endless befuddlement of the masses into a lucrative source of recurrent profit; and, simultaneously, (2) the rendering of the populace more docile in the face of neoliberal takeover of the government.<sup>34</sup> Similar tactics pursue these

32. This is discussed further in Nik-Khah 2015.

33. Lord’s neoliberal bona fides are demonstrated by his previous position in the Reagan administration.

34. See Ronald Beiner’s (2017) description of Steve Bannon and Donald Trump: “Bannon and Trump are ruthless operators, playing the political game in a hyper-Machiavellian fashion. Words are not used primarily to express political intentions or to articulate a



same objectives whether in the Eastern Bloc or the West. Instead of ignorance presenting an obstacle to the neoliberal project, as Buchanan had worried, the marketplace as information processor transforms it into one of the primary instruments of neoliberal dominance. A telling example of this dynamic is the widely reported case of Macedonian teenagers concocting all manner of fake news concerning Hillary Clinton and Donald Trump, and in the process milking the automated system of advertising allocation to collect tens of thousands of dollars. As one of the perpetrators admits, “There’s nothing much to do around here. We’re doing this out of boredom . . . and to make money.”<sup>35</sup> They had been making up fake news for a while, but the appearance of Donald Trump revealed a bottomless “demand” for scurrilous fabrications. There are many other examples. A Republican political operative named Cameron Harris, outed in the *New York Times* as the sole proprietor of a notorious website called Christian Times Newspaper, bragged that he could make \$1000 an hour from made-up stories with headlines about “‘Tens of thousands’ of fraudulent Clinton votes found in Ohio warehouse” and “Hillary Clinton Files for Divorce in New York Courts” (Shane 2017). Follow-up journalism revealed he had simultaneously been tweeting that MSNBC and BuzzFeed were propagating fake news (Morrison 2017). Shameless projection is one of the simplest defenses in the world of fake news.

### **The Interplay of Social Media, Fake News, and the Automated System of Market Conveyance of Information**

That begins to reveal the neoliberal pecuniary and intellectual justification for fake news; but it would not have materialized without an attendant technological transformation in the means of communication. This phase of the story is much better known, particularly in media studies, so we can

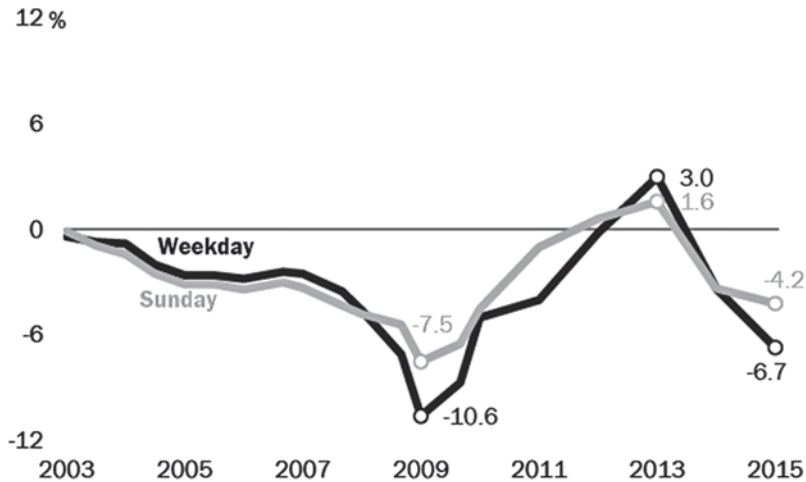
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sincerely-held political vision. To a much greater extent, they serve to keep people guessing or to provide active smokescreens for their real designs (or maybe it’s just a question of getting a “buzz” from knowing that millions of people are getting stirred up by one’s words and images—hence the Riefenstahl fixation). The political activist Bannon casts ‘crony capitalists’ as the root of all evil, yet the Trump cabinet nominations (surely with Bannon’s encouragement) exhibit no shortage of crony capitalists—on the contrary, they seem to predominate. ‘Globalism’ is supposedly the enemy, but that seems not to rule out appointing Goldman Sachs and ExxonMobil executives to positions of consummate power.”

35. Consider the amusing reporting on these entrepreneurs by Britain’s Channel 4 news: <https://www.youtube.com/watch?v=ZusqgWUNFG4>. It is also discussed in Ball 2017.

## Newspaper circulation declines for second consecutive year in 2015

*% change in average weekday and Sunday circulation*



Note: Due to a change in AAM's reporting period, comparisons from 2003 to 2014 are based on six-month averages for the period ending Sept. 30, while comparisons for 2014-15 are based on three-month averages for the period ending Dec. 31. Data do not include affiliated publications. Weekday circulation only includes those publications reporting a five-day average. 2015 analysis incorporates weekday circulation from 282 publications and Sunday circulation from 517 publications.

Source: Pew Research Center analysis of Alliance for Audited Media data. "State of the News Media 2016"

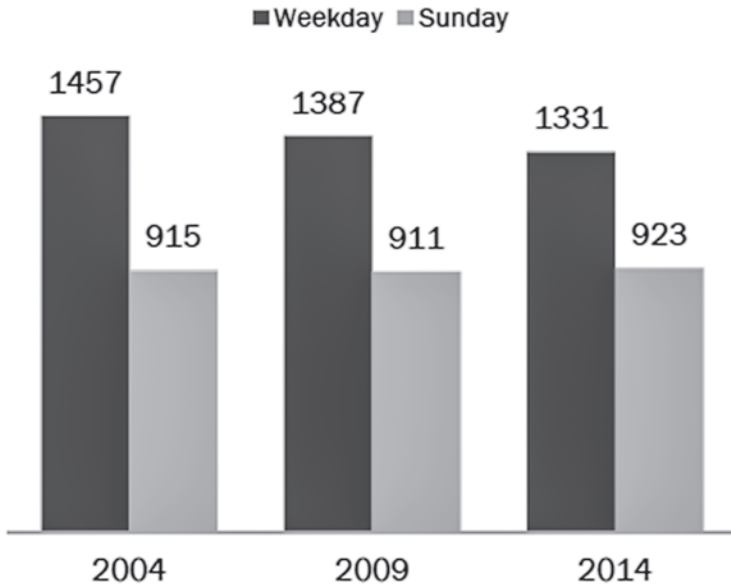
**Figure 1.** Newspaper circulation declines. Source: Pew Research, *State of the News Media 2016*.

present the outlines in a telegraphed format. Due to convenience and a host of factors, the internet has been eroding many of the previous means of production and conveyance of news. Newspapers have been the primary casualty, although one could make a similar case for magazines and TV network news. People are purchasing fewer newspapers, and, consequently, print advertising revenue has fallen dramatically, as demonstrated by Figures 1, 2, and 3 for the United States, taken from the Pew Research Center's *State of the News Media 2016* reports.<sup>36</sup>

36. The source for all of the following data is Pew Research Center 2016.

## The number of daily newspapers has decreased by more than 100 since 2004

*Total number of newspapers*



Note: Data for each year come from the next year's edition.

Source: Editor & Publisher Newspaper DataBook.

"State of the News Media 2016"

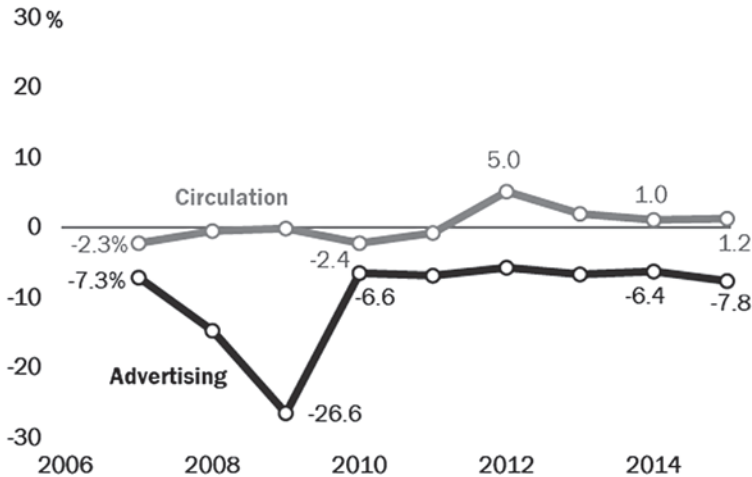
**Figure 2.** Number of daily newspapers has decreased by more than 100 since 2004. Source: Pew Research, *State of the News Media 2016*.

Although the data on macroscopic internet usage is less reliable, by most accounts, much of the attention span of the nation has been shifting toward online sites built by legacy media or newly launched digital news media. This is illustrated in Figure 4, also from the Pew Research Center.

As the potential reach of news outlets shifts from the local to the transnational, different sorts of metrics begin to be required to gauge the substitution in news venues. And here, from the BBC, we have a more

## Advertising revenue sees biggest drop since 2009

Year-over-year % change in revenue for publicly traded newspaper companies



Note: If company owns additional media properties, revenue for only the newspaper/publishing unit was used.

Source: Year-end SEC filings of publicly traded newspaper companies.

"State of the News Media 2016"

**Figure 3.** Newspaper advertising revenue drop. Source: Pew Research, *State of the News Media 2016*.

detailed breakdown of the online sources for news by platforms across twenty-six countries. Figure 5 portrays a dramatic shift away from more conventional curated news sources and toward news provided online by social media and other platforms dedicated to content aggregation and personalized communications. The British MailOnline, reputedly the world's largest news site outside China, reaches roughly 15 million users per day; Facebook, by contrast, enjoyed 1.2 *billion* users per day (Ball 2017).<sup>37</sup> As ad revenue has been diverted from legacy print formats like newspapers and toward digital formats, there has been an obvious restructuring of the ways in which news is gathered and written. While the NTC has been in no

37. It is more if you count mobile phone access. See Aslam 2018.

## Many Americans often get news from digital media platforms

*% of U.S. adults who often get news from ...*

	%
<b>Television</b>	<b>57</b>
Local TV news	46
Cable TV news	31
National nightly network TV news	30
<b>Digital</b>	<b>38</b>
News websites or apps	28
Social networking sites	18
<b>Radio</b>	<b>25</b>
<b>Print newspaper</b>	<b>20</b>

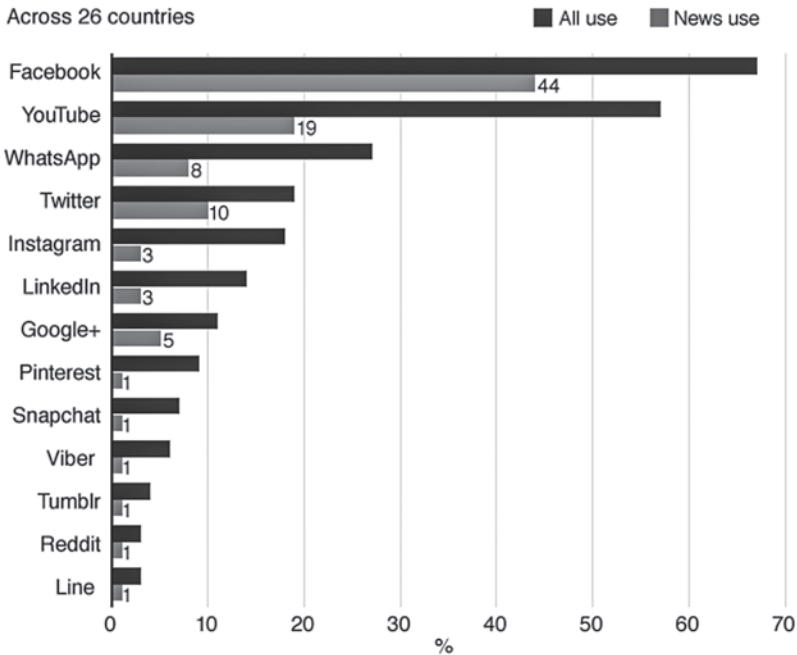
Source: Survey conducted Jan. 12-Feb. 8, 2016.

**Figure 4.** Many Americans get their news from digital media. Source: Pew Research, *State of the News Media 2016*.

way directly responsible for these grand structural deformations, neoliberal attitudes toward knowledge have begun to interact with social media to produce a brave new world of fake news. This has occurred in three rough stages.

The first stage has been the de-skilling of the journalist population. Unlike legacy newspapers, online news sites judge that they have less need for regular representatives to cover “beats” and therefore far less need for trained and qualified reporters. The neoliberal solution to all labor prob-

## Top social networks for news



**Figure 5.** Top social networks for news. Source: Reuters Institute for the Study of Journalism – Digital News Report, <http://www.digitalnewsreport.org/survey/2015/executive-summary-and-key-findings-2015/>.

lems is to fragment, divide, and conquer, from Uber to TaskRabbit, and this works according to similar principles. Instead of years devoted to covering, say, the Pharma industry, today's journalists have been trained to be flexible in their choice of topics and, above all, assiduously monitor the rate of clicks from one short article to the next. You do not need much expertise to craft clickbait. Furthermore, at a temp's wage, those student loans would never get paid off in any plausible time frame. The consequence has been that digital providers are increasingly loathe to nurture a deep bench or even pay for an in-house capacity to sufficiently understand the context to recognize what qualifies as "real news."

The obverse of the mandate to de-skill and minimize the labor of reportage is the conviction on the part of new media entrepreneurs that dependence on automated algorithms is deemed the optimal way to

curate and present news. This constituted the second stage of “creative destruction” of the news. Here the neoliberals did have some direct input. For instance, in May 2016, a poorly sourced anonymous “insider” claimed that the human editors who curated the “Trending” box on Facebook were biased and routinely suppressed so-called conservative websites. One of the accusations was, “Stories covered by conservative outlets (like Breitbart, Washington Examiner, and Newsmax) that were trending enough to be picked up by Facebook’s algorithm were excluded unless mainstream sites like the *New York Times*, the BBC, and CNN covered the same stories” (see Nunez 2016; Ball 2017: chap. 7). In other words, someone at a neoliberal think tank was miffed that Facebook would actually take into account the credibility of a source like Breitbart before listing it on a generic news feed. Gizmodo and the neoliberal echo chamber blew this up into a *cause célèbre*, crying censorship, and Mark Zuckerberg groveled before some right-wing media celebrities; three months later, the human editors monitoring the Trending box were fired, and Facebook claimed that algorithms could do a better and more balanced job than humans could do.

Immediately thereafter, the amount of fake news stories on the trending news feed began to explode (see Dewey 2016; Silverman 2016). The bitter lesson should be that algorithms will more unerringly extract fake news for distribution and disseminate it far more widely than generally might happen under human editorial supervision. So much for banishing “bias.” Facebook harbors an optimistic attitude that in aggregate people will naturally home in on and share truth, one endorsed and promoted by the orthodox economists it hires (Gentzkow and Shapiro 2008; Allcott and Gentzkow 2017), but recent experience increasingly says the exact opposite is happening on a massive scale. The fact that Facebook’s own trending algorithm keeps spreading and promoting fake news is the strongest bit of evidence that this kind of content overperforms on Facebook’s automated scheme. After denying there was a problem with their Trending box after the election, Facebook executed an about-face in early 2017. It doubled down on the premise that more automated code could stifle fake news; it sought to repress some of the “personalization” of the previous trending function, while adding more abstract conditions on the number of news sites allowed. However, a tsunami of criticism has engulfed Facebook since early 2017, and the changes to their news delivery algorithms have been so numerous that they cannot be further summarized in this essay (Griswold 2017). Nevertheless, there is yet no solid evidence that Facebook has rectified this problem.

Automation corrupts the entire epistemic process, far beyond the obvious question of how to winnow down the news actually presented through the instrumentality of Facebook and other social media sites.<sup>38</sup> The lifeblood of contemporary social media is advertising, and algorithms have come to dominate that arena as well. Nothing is more automated than the markets, which direct specific ads to specific sites, tot up the clicks, and end up funding the Macedonians and Cameron HARRises of the world in their duplicitous activities. The important consideration is that advertisers cannot be bothered actually to have an acquaintance with the platforms that display their ads, so according to good neoliberal principles, they depend on automated auctions to slip that banner into the otherwise anonymous website.

Much online advertising capitalizes on the lure of the so-called long tail of the internet—sites that draw relatively small but attractive audiences, like blogs for new parents or forums for truck enthusiasts. Advertising on those sites costs a fraction of what it does on prominent online destinations, which deal directly with advertisers. A complex system of agencies and third-party networks, which resembles a stock exchange, funnels money to smaller sites. This system, known as programmatic advertising, allows brands to collect many millions of impressions—an industry term that generally indicates that an ad has been displayed and can be viewed. “Joe Marchese, president of advertising products for the Fox Networks Group, said the system, set up to reward clicks and impressions, had fueled the growth of low-quality sites well beyond those focused on made-up political news. ‘Honestly, the long tail is to advertising what subprime was to mortgages,’ he said. ‘No one knows what’s in it, but it helps people believe that there is a mysterious tonnage of impressions that are really low cost’” (Maheshwari 2016).

Most of the time, advertisers don’t even know what manner of dreck they are supporting because they have left all that to opaque market algorithms, which neoliberal doctrine tells them are better than any human being in sorting out the truth. But what is fascinating—and this is the third phase of creative destruction—is that automation, once introduced, has the tendency to undermine the very social process that the platform was nominally dedicated to promote.

38. Internal disputes within Facebook over the means by which to automate their advertising from 2011–14 is covered in a somewhat snarky way in Martinez 2016. A discussion of more recent developments is Lanchester 2017.



Quite simply, if you are going to take the trouble to automate the curation and dissemination of news, and then proceed to automate the means of paying for all that content through the instrumentality of advertisements, then it is a short but dramatic step to automate the audience itself. As Samuel Woolley and Philip Howard have pointed out, it has become widespread practice for some political entities to make use of technical proxies in the form of semiautomated bots explicitly to manipulate public opinion (Woolley and Howard 2016; see also Pasquale 2017). They define *political bots* as algorithms designed to operate over social media, able to “learn” from and mimic real people to create misleading impressions concerning the nature of internet interactions. Political bots boost follower numbers and retweet the messages of politicians or other celebrities on Twitter to attack and mislead political opponents on Facebook and the discussion sections of news sites or drown out activist conversations on Reddit and elsewhere. Bots can utterly falsify the number of clicks that accrue to a story and, consequently, thoroughly distort the metrics of ad funding. Woolley and Howard estimate that bots comprise nearly 50 percent of all online traffic; on Twitter, approximately thirty million active accounts are bot driven. In a separate study, a sample of election-related tweets from September 16 to October 21, 2016, revealed an estimate of 400,000 Twitter accounts were in fact bots and that bots comprised nearly 19 percent of the total conversations (Bessi and Ferrara 2016). Political bots do not just imitate human users of social media; they also collect reams of data, which create a blitz of fake news. Thus, fake news is no longer the product of a small coterie of young, bored Macedonians; it has come to alter the very nature of agency in cyberspace.

Nothing better induces despair in the populace concerning democracy than to trick unsuspecting humans into engaging in political discourse with soulless robots. Not only are they bamboozled into a generalized ignorance about almost everything they encounter online but also, now, they cannot tell political discourse from a video game. The very notion of a deliberative democracy consequently becomes a bitter joke. What contemporaries need to wake up to is the realization that some groups want this to happen, contrary to those such as Morozov, who views it as an unintended by-product of digital capitalism. For instance, the only party in the German elections of 2017 who refused to refrain from use of political bots was the Alternative für Deutschland (Drexel 2016: 9).

There is a nascent theoretical tradition that has begun to assemble these phenomena into something approaching a rational schema, although

it is curious that (at least so far) it makes no explicit reference to the tenets of neoliberalism covered in earlier sections. In media studies it has become known as “platform studies,” while in political economy it is designated as “platform capitalism.”<sup>39</sup>

Briefly, this posits a new form of corporate organization, which lives on the internet and supersedes older forms of capitalist competition by initially circumventing profit-driven growth through the alternative pursuit of monopoly by means of data accumulation on a central platform on an epic scale, where automated algorithms replace more conventional production processes. While this raises many interesting questions, its primary relevance in the current section, as well as in the next, is that it highlights the fact that rants and folderol can be mobilized by the platforms enumerated in Figure 5 to promote mass pandemonium for profit, just as easily as they might be engineered to process big data.

### **The Neoliberal Campaign of “Open Science”<sup>40</sup>**

There is very little news to feel heartened about as a scientist these days, so it is all the more noteworthy that the new new thing in science policy circles is an open infatuation with “open science.” The whole thing kicked off in the later 2000s, with rumors of something called “Science 2.0.” The *New York Times* then had the good sense to rebrand this imaginary utopia as “open science” in January 2012 (Lin 2012). The British Royal Society intervened close on its heels in 2012, with a public relations document entitled *Science as an Open Enterprise*.<sup>41</sup> Subsequently, a popularizing book, succeeded by a plethora of government white papers and policy documents, rapidly followed this (Nielsen 2012; OECD 2015). All sorts of obscure institutes and think tanks (the Ronin Institute, the Center for Open Science, openscienceASAP, the UK’s Open Data Institute, PCORI [Patient-Centered Outcomes Research Institute], Laura and John Arnold

39. For the former, see Bogost and Montfort 2009; for the latter, see Pasquale 2016 and Srnicek 2017. In the case of Srnicek, it may seem odd for me to endorse the work of one of the more famous Accelerationist Marxists, but in this book, he wisely leaves the Marxism behind, to produce an insightful analysis of the emergence of new capitalist forms of organization. Srnicek admits therein that he must dispense with the labor theory of value to comprehend the novel structures (54).

40. This section makes use of some material which has appeared in Mirowski 2018.

41. [https://royalsociety.org/~media/Royal\\_Society\\_Content/policy/projects/sape/2012-06-20-SAOE.pdf](https://royalsociety.org/~media/Royal_Society_Content/policy/projects/sape/2012-06-20-SAOE.pdf).

Foundation) then sprouted across the landscape, dedicated to propounding the virtues of “open science” for all and sundry. The National Institutes of Health (NIH) even teamed up with the Wellcome Trust and the Howard Hughes Medical Institute to offer a much-ballyhooed “Open Science Prize” consisting of six awards to various teams of the not very princely sum of \$80,000 with which to launch (?) their prototypes.<sup>42</sup> In 2013, the G8 Science Ministers formally endorsed a policy of encouraging open science.<sup>43</sup> Perhaps displaying some of the same panache, which has lately graced politics in the European Union, the EU Competitiveness Council in May 2016 issued a mission statement that all scientific articles should be “freely available by 2020.” According to the Dutch state secretary for education, culture, and science, Sander Dekker, “The time for talking about Open Access is now past. With these agreements, we are going to achieve it in practice” (Enserink 2016).<sup>44</sup>

Many people have the impression that “open science” is primarily about lay access to gated scientific papers published by large for-profit firms; in fact, that turns out to have been a sideshow in the greater project to “open up” science. As we might now anticipate, the neoliberal attitude is to wrest the very conduct of science away from its putative untrustworthy experts and subject it to a bracing market discipline. This is proposed by enthusiasts as a panacea for whatever ails science: lack of democracy, public distrust of science, a suspected slowdown in scientific productivity, the corruption of modern scientific journals, the crisis of replicability in scientific journals, and much else.

Thus, one consequence of the reverberating debates over the depth of these crises has been to shift the terms of the remedies to different *business models* covering not only publication but the peer review process as well. The entrepreneurial visions of a different configuration of science often evoke the magic of the marketplace to displace centuries-old practices of science. As Brian Nosek states, “You don’t have to reinvent the system,

42. [www.openscienceprize.org](http://www.openscienceprize.org). The six teams further engage in further competition for a single prize of \$230,000, which hardly matches more conventional big science grant amounts.

43. See <http://www.g8.utoronto.ca/science/130613-science.html>, including the ominous statement, “To ensure successful adoption by scientific communities, open scientific research data principles will need to be underpinned by an appropriate policy environment, including recognition of researchers fulfilling these principles, and appropriate digital infrastructure.”

44. A Dutch infomercial promoting open science is available at <https://www.youtube.com/watch?v=fxHmi5omhj4>.

just nudge it a bit. . . . If you do it in an efficient way, people will do it. . . . Open science funders get a higher return on investment” (Effective Altruism Global 2016).

Michael Nielsen, perhaps the major publicist making the case for open science, similarly sings the praises of a commercial approach to reform: “One of humanity’s most powerful tools for amplifying collective intelligence is the market system” (2012: 37). Since many scientists are attracted to the Open Science movement, believing it to be a bold renunciation of older commercial models, it is of paramount importance to understand precisely what the advocates of open science imagine will replace the current system of science organization (see, e.g., Lehrer 2010; Lin 2012; Nielsen 2012; Tracz and Lawrence 2016).

It seems in the current climate, the favorite panacea for the replication crisis, and indeed for everything else that ails science, is the watchword of more “transparency” imposed through the regimentation of a social media–style internet platform. Sometimes its advocates hint that such platforms will displace journals gradually, while others imagine a world without any old-fashioned journals at all. For instance, Mike Eisen, one of the pioneers of e-Biomed and PLOS has in fact explicitly proposed that we should eventually just do away with journals and convert to a complete open preprint plus postpublication peer review system (Eisen and Vosshall 2016). Others have yet even larger ambitions. Some early entrepreneurs openly advocated a “Facebook for Science,” which begins to reveal how the scramble to produce platforms is informed by earlier developments in social media (Lin 2012; Hearn 2016).<sup>45</sup> This, we can recognize, is platform capitalism extended to the pursuit of science. The modern Open Science movement trends toward an entirely public reengineering of science, from the earliest inchoate preparatory stages of a research project to the final dissemination and evaluation of the results. As summarized in Figure 6, this imagines every aspect of the project happening online, from the earliest preliminary reading regimen as a survey of the literature, to recourse to open data sets, produced either by the researchers themselves or by some other scientist, to real-time commentary by others on the research protocols, to drafts of reports uploaded to preprint servers, to quasi-journal publications online, to extensive peer review continuing well after the final draft is posted online. Back in 2010, one might have imagined this happen-

45. Long after I had begun this research project, I was shocked to discover one of these projects at my own university: <https://www.youtube.com/watch?v=enohoM6cBww>.

	Bibliography	Data	Working notes	Draft Paper	Article	Comment on others work	
2010	Not public	Not public	Not public	Semi-public	public	Only indirect	
2030	public	public	public	public	public	Public at every stage	

**Figure 6.** Scientific work flow, 2010 and 2030. Source: author.

ing piecemeal, with, say, a stand-alone preprint server like arXiv performing one function, while a separate website—perhaps like PubPeer—might foster critical commentary linked to specific papers, combined in a sort of free-for-all semi-peer review. So far, there seemed to be no whiff of markets. Nevertheless, no one would believe any such cobbled-together system would work without the reassurance of a political ideology to fortify his or her ambitions.

The most important aspect of this brave new world is to come to understand why its champions would believe that such a sloppy, unintegrated bottom-up system beset by waves of ignorant kibitzers would produce anything but white noise. The paladins of Science 2.0 love to quote the injunction “With enough eyeballs, all bugs are shallow,” but that presumes that all science is merely an instrumental task, with well-defined preconceived outputs, similar to the building of software. Here one has to reinject a modicum of context as well as insist on the dominant narrative of a political ontology, which renders this revolutionary project plausible. Moreover, here is where a comprehension of the philosophical aspect of neoliberalism is indispensable.

There may be abundant dissatisfaction with the state of science in the modern university, but as I have explained in detail in my *Science-Mart* (2011), much of this current distress derives from the concerted political project to wean the university sector away from the state over the last three decades. The aim of this project has been to render both instruction and research more responsive to market incentives, thus doing away with older Humboldtian rationales of *Bildung* and the preservation of the cultural values of civilization. The political project of neoliberalism, which takes as its first commandment that the market is the most superior information processor known to humankind, has motivated this transformation. For their acolytes, no human can or ever will match the wisdom of the mar-

ket. The knowledge held by any individual is (in this construction) of a weak and deceptive sort; no human being can ever comprehend the amount of information embodied in a market price; therefore, experts (and scientists) should not be accorded much respect, since the market ultimately reduces them to the same epistemic plane as rank amateurs. This is glossed in some quarters as the “wisdom of crowds.” Neoliberals cheerfully propose a democratization of knowledge, but in a curious sense: everyone should equally prostrate himself or herself before a market, which will then supply them with truth in the fullness of time.

Neoliberal initiatives brought about the crises of modern science; neoliberal think tanks first stoked the fires of science distrust among the populace, leading to the current predicament. Neoliberals provided the justification for the strengthening of intellectual property; neoliberals drove a wedge between state funding of research and state provision of findings of universities for the public good; neoliberal administrators began to fragment the university into “cash cows” and loss-leader disciplines. Finally, neoliberal corporate officers wrested clinical trials away from academic health centers and toward contract research organizations (CROs) to better control the disclosure or nondisclosure of the data generated. In some universities, students now have to sign nondisclosure agreements if they want initiation into the mysteries of faculty start-ups. It is no longer a matter of what you know; rather, success these days is your ability to position yourself with regard to the gatekeepers of what is known. Knowledge is everywhere hedged round with walls, legal prohibitions, and high market barriers, to be surmounted only by those blessed with riches required to be enrolled into the elect circles of modern science. Further, belief in the market as ultimate arbiter of truth has served to loosen the fetters of more conscious vetting of knowledge through promulgation of negative results and the need to reprise research protocols. No wonder replication turns out to be so daunting. One can understand the desire to cast off these fetters and let the market do the work for us.

The irony of the situation is that although this petrification of the scientific enterprise could largely be attributed to previous neoliberal “reforms” in the first instance, the remedy proposed is to double down on neoliberal policies, now under the rubric of “open science.” Rather than simply foster “participation,” modern science is chocablock with proprietary websites that aim to reengineer the research process from the ground up. Internet start-ups are thick on the web, befitting the early stages of a push to engross and capture new electronic real estate. Academia.edu, Mendeley,

and ResearchGate seek to foster artificial research communities to attract far-flung kibitzers to discuss and criticize the early-stage search for topics in which to become engaged in research. The European Organization for Nuclear Research, known as CERN, has built Zendor in order to standardize the sharing of early-state research products. Open Notebook and Colwiz (and Microsoft's failed myExperiment.org) are platforms to organize the early stages of research out in the open, even to the extent of conducting "virtual experiments," while sites like Kickstarter and Wallacea offer alternative modes of seeking out research support. There are purported "citizen science" sites that entice nonscientists to perform remote labor for aspects of data processing which can be Taylorized and automated—SETI@home and Foldit are oft-cited examples. There are a plethora of platforms for publication management and controlled revision by multiple "authors," although most of them are proprietary and closely held, in contrast with something like the physics prepublication site arXiv.org. Indeed, in clinical trials, most CROs are built around such proprietary platforms. A burgeoning field of start-ups fosters postpublication platforms to evaluate and otherwise rank papers in various fields using so-called altmetrics, sometimes combined with collated unpaid reviews, as on the site Faculty of 1000. Firms like Science Exchange, Transcriptic, and Emerald Cloud Lab attempt to automate actual (mainly biochemical or clinical) lab procedures online, to better outsource and fragment the research process and, nominally, to render replication relatively effortless. Currently, different platforms seek to restructure distinct subsets of the research process to resemble social media sites. This could range from the earliest stages of research—emulating the blog-like character of searching for a research topic, or brainstorming over research protocols and experimental designs—to crowdsourcing the funding, or recruiting a research cadre. Then there could be sites that organize the performance of wet work or experiments, promoting radical automation. The most common sites promote the collaboration in composition of the write-up of results, facilitating revision and manuscript submission, possibly in "open" source outlets. Finally, further sites attempt to organize postpublication evaluation, in the name of "open science." Each of these start-ups should not be considered in isolation, because the entrepreneurial culture of venture capital is oriented to eventual buyout of the platform by some firm with deep pockets, to vertically integrate all the parts into one grand platform, becoming the Amazon or Facebook of science. The dream of every venture capitalist is to own a piece of the One Platform to Rule Them All. The rush to consolidation is already underway, percolating below

the radar of most scientists. For instance, in 2016, Elsevier first purchased Mendeley and followed that by swallowing the Social Science Research Network, a huge preprint service with strong representation in the social sciences (Pike 2016).

Who would not, then, want to own the obligatory online passage point for the bulk of modern scientific research? This is the platform capitalism model incarnate, the holy grail of the Uber platform. The science entrepreneur Vitek Tracz has already sketched the outlines of one completely integrated online research platform (Tracz and Lawrence 2016); the aptly named Ronin Institute has proposed another, arguing, “Open Access and Open Data will make so much more of a difference if we had the same kind of dynamism in the academic and nonprofit sector as we have in the for-profit start-up sector” (Lancaster 2016).<sup>46</sup> As many of the entrepreneurial protagonists of the reorganization of science admit, Facebook is their lode-star and inspiration.

Readers of Michel Foucault will realize that the key to the process of spreading neoliberalism into everyday life involves recasting the individual into an entrepreneur of the self. Technologies such as Facebook already foster neoliberal notions of what it means to be human among teenagers who have never read a page of Hayek or political theory in their lives.<sup>47</sup> Novel open science platforms inject neoliberal images of the marketplace of ideas into the scientific community, which equally may not have paid much attention to contemporary political economy. For instance, the programs are all besotted with the notion of complete identification of the *individual* as the locus of knowledge production, to the extent of imposing a unique online identifier for each participant, which links records across the platform and modular projects. The communal character of scientific research is summarily banished once one signs up for a unique ORCID and one’s identity is linked across numerous platforms. The scientist is introduced to a quasi market that constantly monitors his or her “net worth” through a range of metrics, scores, and indicators: h-index, impact factors, peer contacts, network affiliations, and the like. Regular email notifications keep nagging one to internalize these validations and learn how to game them to one’s advantage. No direct managerial presence is required, because one automatically learns to internalize these seemingly objective market-like valuations

46. The quoted sentence appeared in the source when I last accessed it, March 4, 2018. However, it seems the author has removed it from the version now available online (Lancaster 2016).

47. I discuss this further in Mirowski 2013: chap. 3.



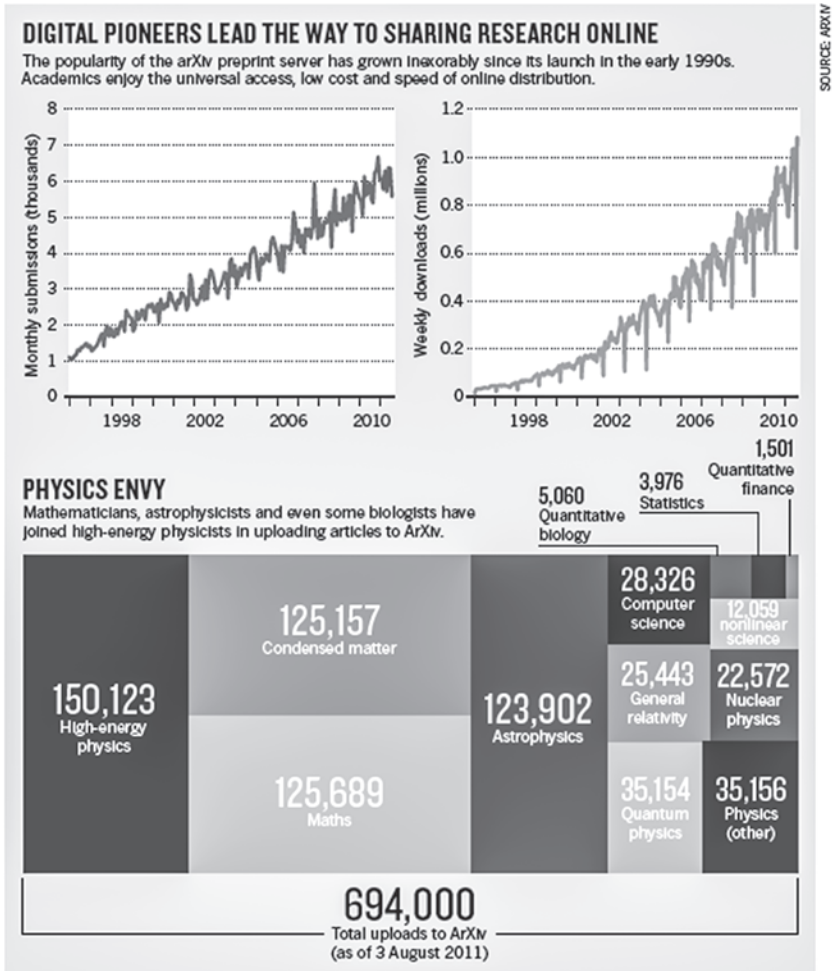
rather than, say, hold a tenacious belief in a set of ideas or a particular research program. All it takes is a little nudge from a friendly online robot.

There is another curious aspect concerning the Open Science movement that is illuminated by a more general understanding of the neoliberal project. As I have explained elsewhere, neoliberalism struggles against a brace of inherent “double truths” (Mirowski 2013: 68–83): “openness” is never really “open”; “spontaneous order” is brought about by strict political regimentation as conscious mobilization; a movement that extols rationality actively promotes ignorance. Some perceptive work in science studies has already highlighted the first of these double truths for the early versions of the Open Science movement (Ritson 2016). The physics prepublication service arXiv is often praised in outlets from *Nature* to *MIT Technology Review* as a proof of concept for open science, but that just ignores its actual history of conflict and unresolved problems. Founded in 1991, arXiv rapidly became the website of choice, to the extent of receiving 75,000 new texts each year, and providing roughly 1 million full-text downloads to about 400,000 distinct users every week (Ginsparg 2011). The growth in arXiv has been linear, attracting papers in mathematics, astrophysics, and computer science, and to a lesser extent other fields, demonstrated in Figure 7.

This litany of success omits the extent to which arXiv has not been altogether “open.” The site’s founder, the physicist Paul Ginsparg, only hinted at problems in a retrospective:

Again, because of cost and labour overheads, arXiv would not be able to implement conventional peer review. Even the minimal filtering of incoming preprints to maintain basic quality control involves significant daily administrative activity. Incoming abstracts are given a cursory glance by volunteer external moderators for appropriateness to their subject areas; and various automated filters, including a text classifier, flag problem submissions. . . . Moderators, tasked with determining what is of potential interest to their communities, are sometimes forced to ascertain “what is science?” At this point arXiv unintentionally becomes an accrediting agency for researchers, much as the Science Citation Index became an accrediting agency for journals, by formulating criteria for their inclusion. (Ginsparg 2011: 147)

Although Ginsparg sought to dismiss this as a mere matter of logistical housekeeping, arXiv has been continually roiled by pressure to act as a validator of legitimate knowledge—that is, to reign in its nominal “open-



**Figure 7.** The track record of arXiv. Reprinted by permission from Springer Customer Service Centre GmbH: Springer Nature, *Nature*, volume 476, pages 145–147 (“ArXiv at 20,” Paul Ginsparg) (11 August 2011).

ness.” This problem broke out into the open during the so-called string theory wars in 2005–2007. In truncated narrative (Ritson 2016), arXiv introduced a “trackback” function in 2005, which enabled authors of blog posts to insert a link for the post on the paper’s abstract page in arXiv. Note well, this was effectively the beginning of integration of arXiv into a larger OS platform, linking archive functions to evaluation of ideas. The physics com-

munity found itself outraged to deny this capability to “crackpots,” revealing a fear of integration of blogs into the permanent body of scholarly communication. No acceptable standard distinguishes those who had the right to comment from those without. Differing research communities allowing different attitudes to the forms and protocols of debate only exacerbated the problem. There have been repeated attempts to severely restrict the trackback function to prevent the turning of arXiv into a central component of a larger open science platform. The neoliberal response would be that it is not the place of the disciplinary community to decide where openness “ends.”

What exactly is neoliberal about the incipient electronic manifestation of Science 2.0? Let us survey the possibilities. First, the proliferation of open research platforms is primarily subordinate to the project of breaking up the research process into relatively separable component segments, in pursuit of their rationalization, which means primarily cost cutting. This happens through the intermediary of de-skilling some of the tasks performed (“citizen science”) and automating others (altmetrics, rendering big data accessible to web crawlers). Capturing freely donated labor that can later be turned into proprietary knowledge products is the analog to capturing freely provided personal data. Thus, Science 2.0 constitutes the removal of autonomy from the research scientist. Neoliberal science disparages scientists who remain in the rut of their own chosen disciplinary specialty or intellectual inspiration; what is required these days are flexible workers who can drop a research project at a moment’s notice and turn on an interdisciplinary dime, in response to signals from the market. The short-term nature of science funding, as embodied in Kickstarter or recent innovations by the NIH, simply expresses this imperative. Second, the selling point of many of these platforms is not just providing direct services to the scientist involved; at every stage of research, they provide external third parties with the capacities for evaluation, validation, branding, and monitoring of the research program. Their nominal “openness” constitutes the ideal setup for near real-time surveillance of the research process, a panopticon of science, something that can be turned around and sold in the very same sense that Facebook provides real-time surveillance of consumer behavior. Third, the paladins of Science 2.0 have moved far beyond quotidian concerns of appropriation of individual bits of intellectual property, like patents. What they have learned (similar to Microsoft, similar to Google, similar to Uber) is that the company that controls the platform is the company that eventually comes to dominate the industry. Microsoft has learned to live with Open

**Table 1.** The modern landscape of open science

BY WHOM	GETTING INTERESTED	PREPARATORY	RESEARCH PROTOCOLS	WRITEUP	PUBLICATION	POST-PUB
Normal scientist	Academia.edu; Blogs; Research Gate; LinkedIn	Open notebook; Mendeley; Colwiz	Emerald Cloud; Science Exchange	arXiv; Zenodo	Frontiers.org; eJournals	Academia.edu; PeerJ Pub Peer
Funders	OSSP	Kickstarter; Wallacea	NIH Open source; Hivebench	Zenodo; Pub management	AltMetrics; F1000 Gates platform	Open access commentary
Competing scientists	Research Gate; Twitter	Polymath; Mendeley; EU OS Cloud	Open data; Pure; EU OS Cloud	Zenodo; PubPub	Publons; Peerage of science	Fac of 1000
Spectator scientists	Twitter; Blogs	Open collaborate; ScienceMatters	Virtuallabs; Vlab.co.in		Thinklab; Open comment	Blogs; Clarivate
Outsider citizens	Wilson Ctr CS	SETI@home; Foldit	DIY bio; zooniverse	Publication managers		
Kibitzers	Twitter		Open source software			Blogs

Source: author.

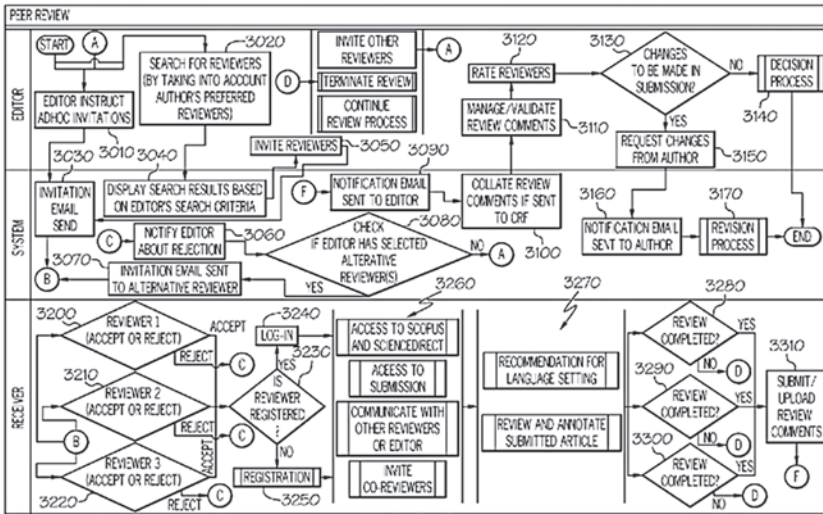


FIG. 5

**Figure 8.** Patent #9430468, “Online Peer Review System and Method.” Source: United States Patent and Trademark Office, www.uspto.gov.

Source; Amazon leases out cloud computing, Google “gives away” Google Scholar. The future king of Science 2.0 will not be a mere patent troll, living as a parasite off companies who actually work the patents; it will not be perturbed by a few mandatory open data archives here and there. Instead, it will be the obligatory passage point for any commercial entity who wants to know where the research front of any particular science is right now and whom they must pay to influence and control that front.

The race to be the king of platforms that controls the future of open science is already happening, with the components taxonomized in Table 1.

This dream of an Uberization of science is much further along than I believe most people realize. While some academics spin their visions of sugar plums in the air, various big players are positioning themselves to package together all the functions in Figure 8 into one big proprietary platform. On August 30, 2016, the United States Patent and Trademark Office issued U.S. Patent #9430468, entitled “Online Peer Review and Method.” The owner of the patent is none other than the for-profit megapublisher Elsevier. The essential gist of the patent is to describe the process of a peer review being organized and effectuated on a computer program, as in Figure 8.

Of course, it would be the height of hubris to expect to appropriate

the entire concept of peer review as intellectual property, but perhaps that was not really the aim of Elsevier. The Patent Office rejected this patent at least three times, but under the unlimited do-over rule in US law, Elsevier kept narrowing the claims until the stipulation passed muster. It does include an automated “waterfall process,” in which a rejected paper is immediately turned around to be submitted to another journal in a recommended sequence. It is also plug-compatible with a variety of different formats of “reviewer” inputs.

In the brave new world of open science, this input might take many forms. Some researchers are already exploring automated peer review: using a natural language generator to produce plausible research reports, using some more unconventional evaluation inputs (Bartoli et al. 2016). One of the platform components has been constructed in dedicated start-ups with an eye toward the crisis of replicability: taking standardized datasets and research protocols and conducting automated replication with robot labs. Far from being science fiction, there are already two for-profit firms, Transcriptic and Emerald Cloud Lab, which are positioning themselves to provide this service in a more automated and streamlined open science platform (Wykstra 2016; Alkhateeb 2017).

### Conclusion

Awareness of the philosophical core of neoliberalism—namely, the epistemic superiority of the market in all things—is a necessary prerequisite to understanding some of the most crucial developments in contemporary politics, contrary to those on the left who disparage the very idea of any coherence whatsoever to neoliberal doctrine and practice. Neoliberalism has corroded Marxism as a serious intellectual proposition, but it has also played a facilitating role in the last US presidential election and congealed into the very architecture of platforms like Facebook, Elsevier, and Mendeley. It sets the parameters for what can currently be known.

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