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Fake News is Not a Virus: On Platforms and Their Effects

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This article attempts to uncover the intellectual, economic, and methodological structures that have led to the recent emergence of a particular notion of digital communication on social media platforms, one that emphasizes the power of (false) media messages to cause irrational political behavior and combines individual level understanding of media effects with a networked notion of society and information diffusion. After pointing out some of the real political-economic forces at work in setting the contours of this intellectual turn, I discuss how spaces between mutually constructed but overlapping paradigmatic understandings of media behavior lead to theories that serve as boundary objects, linking (and misunderstanding) older fields in order to advance new agendas. I then turn to the consequences of particular methodological choices, drawing on key works in Science and Technology Studies (STS) to make the point that these methodological choices not only establish scientific fields, they construct certain types of human subjects as well. The article concludes with a call for a more humanistic and interpretive approach to the understanding of political behavior and communication.

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> It is part of our scientific attitude that what we find out about people using any of [these] engines of discovery is a fixed target. We usually hit something, and then we say that what we hit was what we were aiming at. (Ian Hacking, "Making Up People")

Introduction: a new era of powerful effects?[1,2]

In early October 2019, a former employee of the British voter profiling company Cambridge Analytica named Christopher Wylie was a featured guest on the popular American public media interview program *Fresh Air*. When asked by the show's

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host to explain what Cambridge Analytica did in the 2016 US Presidential election, Wylie summed up his former company's work this way:

> The basis of Cambridge Analytica's work was essentially to take large amounts of highly granular data about each individual voter in the United States—a large bulk of that came from Facebook, but it came from many sources—and to look for patterns in that data to essentially infer different psychological attributes and, from that, to find target groups of people, particularly on the fringes of society, who would be more vulnerable to certain kinds of messaging. They focused a lot on disinformation; They targeted people who were more prone to conspiratorial thinking. (Wylie, 2019)

While stated in unusually strong terms, Wylie's narrative echoes a popular line of recent thinking about what platforms do to politics, particularly insofar as they have become vehicles for media content alternately labeled "disinformation," "fake news," "computational propaganda," and "misinformation." In much journalistic writing about digital information, this focus on the pernicious effects of Facebook, Twitter, WhatsApp, and Instagram and the notion that malicious digital propaganda has swung elections, fostered hate speech, and often quite literally brainwashed supporters of Brexit or Donald Trump has become a commonplace. Foundation funding and government research and development (R&D) investment has increasingly been devoted to supporting organizations and research initiatives that promise to document the effects of fake news and mitigate their effects. To generalize greatly, Western society at large seems gripped by a moral panic about the power role of technology companies in facilitating behavior that seems—at least to many liberal-minded observers still reeling from the twin triumphs of Donald Trump and Brexit in 2015 and 2016—to be leading voters to act in all sorts of irrational ways. What concerns me in this article is the manner in which communication theories, and the scholarly discipline of media and communications research, are grappling with these larger public developments. The starting point of this article is the basic claim that research and scholarship do not exist outside larger contexts but rather are influenced by how fields remember their disciplinary history, how they grapple with the political economy of research funding, and how the *performativity* of their data sources and their methodological choices influence the kinds of theories they eventually adopt to explain what platforms, and political communication, do.

To that end, this article contends that we are at a moment of both great promise and great peril for the field of political communication research specifically, and media studies research more broadly. Promise, because it is now generally understood (even outside the academy) that many of the political and social problems we grapple with today are fundamentally *communication problems* that relate to what some have called the broader mediatization of social life in the 21st century (Brabazon et al., 2019; Couldry and Hepp, 2017). Peril, because a variety of external influences (funding dollars, available data sets and analytical tools, and so forth)

run the risk of fostering a strand of largely un-self-reflexive communication research that embraces what I call a "third-generation" behavioristic form of media messaging whose fundamental premises ought to be more seriously scrutinized. And peril, too, because we perhaps risk rehashing mid-20th century debates about strong and weak media effects in the 21st century, when perhaps we ought to be finding new analytical categories and paradigms to help supplement the disciplinary frameworks of five decades ago.[3]

This article thus operates from the assumption that it is essential to understand our disciplinary and theoretical past in order to properly study digital media and political communication today, but that we must simultaneously avoid simply grafting old paradigms onto our current research and intellectual debates. To do this, this article essentially inverts the argument made in Bennett and Iyengar's now classic article "A New Era of Minimal Effects? The Changing Foundations of Political Communication" (2008). In their attempt to analytically differentiate the social, technical, political, economic, and cultural structures of the digital media era from a previous period of stability that ran for roughly four decades between the 1940s and 1980s, the authors argue that old paradigms, theories, and methods of media need to be revised or abandoned in light of new empirical realities. What Bennett and Iyengar do *not* address, however, is the possibility that changes in available types of data, methods, and theories *also* produce different visions of social reality as being worthy of study, and thus produce different visions of the kinds of subjectivity that are accessible to research. In short, for Bennet and Iyengar, changes in ontology drive the need for changes in theory; but the possibility also arises that changes in theory, method, and data *also* make certain types of social research more acceptable than others.[4] This is the argument I make in the pages that follow.

From this starting position, this article posits that there are three possible causes that might explain the rising dominance of platform-oriented effects research in the field of communication. Each causal factor draws on a difference strand of scholarship within Science and Technology Studies to explain our current scholarly moment; (a) the availability of external resources and centers of journalistic prestige, (b) the co-existence of multiple media research paradigms simultaneously, and (c) the performativity of research methods—a performativity which itself helps create the very object of scholarly study—all help foster a consequence-driven and interpretation-free paradigm of digital media scholarship which does violence to the subtleties of political communication in the platform age.

The first part of the article, drawing on some of the early work of Bruno Latour (1988) and others in Sciencer and Technology Studies (STS) , takes a resources/political economy perspective on the rise of effects-driven platforms studies. It highlights how changes in research funding streams, forms of media prestige, and external reward structures encourage particular flavors of scholarship. The second part of the article then turns to recent heterodox perspectives on the history of media studies field, arguing that the nature of overlapping media research paradigms encourages particular forms of digital platform scholarship. Drawing on STS

frameworks which emphasize the co-existence of research paradigms rather than their replacement (Bowker, 2006) as well as Neuman and Guggenheim's reconstruction of the "media effects" paradigm (2011), the article argues that the current consequence-driven and interpretation-free focus of much research on platforms draws its explanatory power from the fact that it sits "in-between" two robust, co-existing field paradigms: the individualistic, short-term, and social-network analysis research of Paul Lazarsfeld and his research team and the "strong effects" paradigm that Katz and Lazarsfeld retroactively invented in order to overturn (Katz and Lazarsfeld, 1955). But because there never was a robust theory of mass mediated society and large-scale media effects, current platform scholarship lacks adequate conception of mass society upon which to ground an analysis of social media platforms with up to a billion users and thus risks incorporating the worst aspects of two distinct paradigmatic worlds.

The third part of the article parallels recent scholarship on the epistemology and methods of digital media, particularly the research of Fisher and Mehozay (2019), as well as that of more popular publications like Anderson's *End of Theory* (2008). In essence, the third lens proffered here contends that Fisher and Mehozay identify what they call a new "algorithmic episteme" that, drawing on the availability of social media data, has radically reshaped the media's understanding of its audiences. This algorithmic episteme sees human subjectivity as surface level only, is most interested with predicting future action, and is no longer concerned with categorizing groups of individuals into particular demographic groups (2019, pp. 10–13). The algorithmic episteme is, in other words, no longer social scientific at its epistemological foundations. What this current article adds to the notion of an algorithmic episteme is a meta-theoretical concern with how these emerging categories of audience understanding and social media data *affect the field of media and communication research itself*. By concentrating on the (contested) history of the relationship between different epistemological regimes and media research, I hope to show that algorithmic epistemologies influence the practice, not only of media industry research, but important academic research as well (Hacking, 2006; Marres, 2018; MacKenzie, 2008).

Power: structural determinants of research focus

The first section of this article looks to external systems, reward structures, and power centers for an explanation of the rise of behavioristic, effects-obsessed digital methods in the current platform age. The most important factor to keep in mind when thinking about the role of funding structures in the study of digital information is that, to date, media and communication is an area that has received relatively little money from traditional public and private funding bodies. Much media studies scholarship has been derided as "Mickey Mouse" research (Bennett and Kidd, 2017), and additional research programs have usually been understood as industrial R&D which can and should be carried out by the media organizations which stand

to benefit from them. Because of this relatively low level of external support, the last three years have seen a sea change wherein even relatively small shifts in resource availability can have an outsize impact on what is seen as important and serious scholarship. Suddenly, in other words, the money has flooded in. Since 2016, the prestigious European Research Council (ERC) has awarded millions of euros to study how and why people share fake news, from a "complexity systems" and "big data" perspective ("ERC Grant of 1.5 Million Euros Awarded to Joana Goncalves De Sa," 2019); to train algorithms to perform fact-checking operations in the same manner as journalists by deploying artificial intelligence (Cassauwers, 2019); and create a typology of "junk news" (Marchal et al., 2018). The European Commission, likewise, has noted that:

> The exposure of citizens to large scale disinformation, including misleading or outright false information, is a major challenge for Europe. The Commission is working to implement a clear, comprehensive and broad set of actions to tackle the spread and impact of online disinformation in Europe and ensure the protection of European values and democratic systems. ("Tackling Online Disinformation," 2019)

In the United States, the Knight Foundation made a major investment ($50 million, a staggering amount for media research in the American context) to "expand the study of information manipulation through online platforms; develop approaches to counter disinformation," (in a grant awarded to Carnegie Mellon) "to help the public, journalists, and policymakers understand digital media's influence on national dialogue and opinion, and to develop sound solutions to disinformation" (in a grant awarded to George Washington University), "to study how misinformation and disinformation flow through information systems; how information translates into values, beliefs and actions" (in a grant awarded University of Washington), as well as "to improve the study of the impact of the Internet on democracy by increasing the scale, quality and availability of social media data and analytical tools to study that data" (in a grant awarded to Indiana University) (Gill, 2019). The Social Science Research Council, for its part, has noted that "recent revelations about the unintended disclosure of industry data and spread of disinformation across national borders make clear the need to better understand the impact of social media on society" ("Social Media Research Grants, 2019). Hybrid academic/industry organizations such as Microsoft Research, Data and Society, and the AI Now Institute have each launched programs and strands of research on disinformation. Columbia University and Harvard University have both made significant institutional investments in understanding so-called "fake news," and independent organizations such as First Draft have begun to bridge the gap between news organizations and academic research, training journalists to understand and combat disinformation.

In terms of actual research and media coverage, recently published scholarship treats information as propaganda capable of deeply affecting the human mind and

leading to questionable political decisions. Researchers led by Harvard Professor Yochai Benkler have mapped the media ecosystem surrounding the 2016 Presidential election in the United States in order to point out the existence of "partisanship, propaganda, and disinformation" (Faris et al., 2017). Phil Howard and his team as the Oxford Internet Institute have been analyzing automated disinformation in an almost medicinal sense, seeing the presence of "junk" information as symptomatic of an ill and irrational body politic (Marchal et al., 2019). Kathleen Hall Jamieson's book *Cyberwar: How Russian Hackers and Trolls Helped Elect a President. What We Don't, Can't, and Do Know* (2018), is perhaps the most emblematic of this turn in media studies, seeing a key minority of Trump voters as largely the victims of a form of Russian propaganda that openly affected their voting behavior. In terms of mainstream press coverage, the drumbeat of news on disinformation and propaganda has more or less been nonstop, beginning with Silverman's (2016) *Buzzfeed* piece on the role of Russian disinformation in the 2016 presidential election to Broderick's (2018) claim that social media disinformation "radicalized the world" and led to an upsurge in right-wing populism across the globe.

There is, of course, more to the turn toward propaganda studies and strong effects than simply the existence of external influences. As Todd Gitlin puts it in his (in)famous "dominant paradigm" article, scholarly lenses emerge out of the relationship between funding systems, tools of measurement, the evidence that researchers uncover (in their own minds, independent of context), and the larger discursive regimes in which talk about legitimate methods are embedded. What lies behind changes media research is a "powerful convergence of commitments [wherein] an administrative mentality harmonized" with both corporate *and* funding *and* the turn toward positivism in social science after the Second World War. In other words: we cannot simply understand the turn toward particular modes of research as a simple function of external reward or manipulation. Paradigmatic understandings and specific methods are implicated in this story as well.

Ideas: co-existing paradigms of media research

The second section of this article thus turns to the manner in which ideas—and the history of those ideas—help sustain and even encourage a particular turn in research on digital media platforms. In other words, as and others (Simonson, 2016) make clear, the discipline of communications research possesses its own remembered history, one that occupies a central place in the education of undergraduates and even PhD students with regard to the intellectual trajectory of their field (Grossberg et al., 2005; McQuail, 2005; Wimmer and Dominick, 2014). And this history of our field, in particular the manner by which varieties of this history allow multiple research paradigms to co-exist simultaneously, is deeply implicated in current research on the causal power of Facebook and other social media platforms. If my first lens draws on the resource allocation notions early actor-network theory,

the second draws instead on the scholarship of Geoff Bowker, particularly his *Memory Practices in the Sciences* (2005).[5] Simplifying somewhat, Bowker argues that science—rather than a succession of competing and displacing paradigms—is instead composed of an uneasy mixture of various scientific visions which coexist simultaneously and are only smoothed over via the enactment of particular socio-material memory practices. The point, in other words, is anti-Kuhnian: paradigms exist at the same time, rather than one at a time (importantly, also see the work of Neuman and Guggenheim, 2011). In section I further extend this argument and try to show how, because several communication research paradigms exist simultaneously, the impetus for platform research actually emerges out of the *spaces between two paradigms, allowing political communication to simultaneously draw intellectual strength from both of them*. In this sense, scholarship on Facebook can be seen as something of a "boundary object," bringing together different disciplinary communities by allowing for a flexible interpretation of the stakes involved.

All scholars of political communication know their disciplinary history—from strong effects and hypodermic needles, to personal influence and limited effects, to agenda-setting, framing, priming, uses, and gratifications, and so on. But while we all know this history, we are also increasingly aware that it is wrong on multiple fronts. In particular, it is wrong in two ways that have specific consequences for how some scholars analogize and understand the role of media platforms in the present moment. First, we now know that there was there never was a robust theory of mass mediated society and large-scale media effects, and yet the shadow of such a theory exists in the *minds* of many present-day media researchers. Because of this, scholars lack an adequate conception of "mass" upon which to ground the analysis of large-scale networked platforms where the line between "individual" and "collective" is deliberately blurred. Second, researchers have a tendency to lump all forms of short term media influence at the individual level under the *paradigm of behaviorism*, a move which overlooks some important ways that Lazarsfeld and his team of researchers actually adopted a social network model of cascading information flows and diffusion of information. Both the image of a hypodermic model of media effects and the behaviorist model of the two-step flow exist as imagined paradigms. In essence, they allow scholars working on understanding platforms and their effects to draw intellectual support and disciplinary resources from both models. Neither model is real, but both matter a great deal for the kind of research that actually gets done.

The image of mass society

In the standard history of communications research discussed above, the hypodermic needle model of media influence serves as a point of contrast with the "limited effects" model proposed by the Columbia sociologists. This model was both theorized and typified by the mass panic that followed Orson Welles' infamous broadcast, "War of the Worlds." There are three problems with this account. First, the

panic was, in part, a retrospective invention of newspapers. As Socolow and Pooley have asked, "how did the story of panicked listeners begin? Blame America's newspapers. Radio had siphoned off advertising revenue from print during the Depression, badly damaging the newspaper industry. So the papers seized the opportunity presented by Welles' program to discredit radio as a source of news. The newspaper industry sensationalized the panic to prove to advertisers, and regulators that radio management was irresponsible and not to be trusted" (Socolow and Pooley, 2013).

Second, the most rigorous and creative research on how listeners actually reacted to the October broadcast—primarily the 30 initial interviews with radio listeners carried out by Herta Herzog—emphasized that a good number of listeners responded to the broadcast by "checking up" on its contents. That is, they responded by further investigating the claims on the radio by talking to friends or family, or otherwise critically interrogating the outlandish mediated claims. The decision to "checkup," mediated as it was by educational, communal, and small-group bonds, actually turns out to be a theory of *limited* media effects—influence as limited both by primary group membership as well as particular educational or critical pre-dispositions (Pooley and Socolow, 2012, p. 40).

Third and most importantly, as Katz (1987) himself has admitted, the notion of a theoretical prehistory of an alienated mass society strongly susceptible to mass-media influence was itself partly a retrospective invention, the deliberate creation of a pre-scientific era to which the limited effects model of Katz, Lazarsfeld, and others could be opposed. What *was* the notion of mass society to which the hypodermic needle model of media effects was indebted? Was there any theory at all? Was there a theorist who proposed such a thing? Writes Katz: "while (. . .) empirical research was never guided by [such a] theory, there is no doubt that it was a highly prevalent image among both political and cultural philosophers, academic and popular" (Katz, 1987, S35). According to, the central figure in all this was Edward Shils, the European philosopher turned social scientist who first posited a notion of "mass society" which was later picked up by Katz in his historical overview of the communication field. Katz, in other words, erected a straw man that allowed him to contrast the individual, decisionist, short term, and scientific analysis of communication effects with the "pre-science" that had come before. The problem, of course, is that this mass society paradigm never existed. And the fact that it never existed lead to particular intellectual problems when we attempt to theorize new forms of networked digital communication with over one billion users.

Behaviorism vs behavioralism

In *Media Sociology: The Dominant Paradigm*, Gitlin labels the work of Paul Lazarsfeld and Elihu Katz "behaviorist" seven different times. Their work "has looked to 'effects' of broadcast programming in a specifically **behaviorist** fashion, defining 'effects' (. . .) narrowly, microscopically" (1978, p. 206). "The theory of the

two-step flow, and the specific approach to 'effects' in which the theory is embedded, are generated by a **behaviorist** worldview which makes itself decisive—and invisible—in the form of methodological microassumptions" (p. 209). The "reduction of structurally distinct social processes to commensurables can be recognized as a cardinal operation in the **behaviorist** canon." "In his fascinating—and fascinatingly incomplete—memoir, Lazarsfeld discussed some of the difficulties he faced in negotiating the lingering differences between the institutional interests of the mass media and the methodological requirements of **behaviorist** research (210)" One heading is titled simply "**Behavioralist** assumptions and damaged findings" (p. 210). And so on. Additionally, however, Gitlin labels the research behavior**al**ist a further eight times. It is clear that, for him, the terms are coterminous. And so, perhaps, it seems to us. All of this hairsplitting about the use of the two letters "AL" to describe different forms of social research requires a heavy dose of tolerant antiquarianism.

However, the distinction really does matter: in part because behaviorism and behavioralism refer to two distinctly different intellectual enterprises, in part because the mixing of the two is one of the most important pieces of evidence that help explain the development of our modern-day paradigm of effects-oriented digital platform research. In a lengthy footnote to their recent overview of qualitative predecessors to today's largely quantitative political communication research, Karpf et al. note that:

> Political scientists often distinguish between behaviorism (the study of individuals' observable behavior rather than formal or informal institutions, with an emphasis on stimulus–response models), a broad current originating in psychology but influential across the social sciences, and behavioralism as a more specific, defined, and self-conscious intellectual movement. Behavioralism is the name a group of political scientists in the 1950s and 1960s gave to their attempt to replace an older tradition of institutionally oriented and often historical and qualitative political and social analysis with a research program that was (a) oriented toward aggregates of individuals' behavior (b) based on quantitative methods and statistical techniques, and (c) explicitly casting itself as following in the footsteps of the natural sciences. (Karpf, Kreiss, Nielsen, and Powers, 2015)

Focused on other topics, the authors do not pursue this line of thinking further. In various histories of the behavioral revolution in the social sciences, however, other scholars re-emphasize the point; for Gunnell, "the term 'behavioralism,' as opposed to 'behaviorism,' was peculiar to the field of political science." For Hauptmann a discourse of behavior had already become hegemonic in U.S. psychology as early as the 1910s (. . .) but it was not debt:

> (. . .) to Skinnerian behaviorism with its conviction that behavior could best be understood through experiments in tightly controlled laboratory settings, but to

> the interdisciplinary, methodologically sophisticated and eminently practical behavioral sciences. (Hauptmann, 2012, pp. 155–156).

For our purposes, the essence of the differences is this: a behavioristic view emphasizes that media messages impact message recipients in a statistically deterministic way; a behavioralistic view has an individualistic orientation, emphasizes quantification and regularity, and models itself on the natural sciences, and often looks at short-term effects—a positivistic worldview to be sure, but one that still leaves open the possibility that the individual recipients of messages will make *their own* meaning out of the media that they are exposed to. For Lazarsfeld, the fact that he is not a behaviorist is clear, insofar as he is deeply interested in what stands between media and the individual decision act. In the case of the "two step flow," that "what stands between" is other people. But there might be a range of other possible candidates.

Gitlin's indiscriminate use of behaviorist and behavioralist reflects a more widespread tendency to group all "non-critical" approaches within a single paradigm, using language of "limited" or "powerful" effects as an important boundary marker. This critical tendency has the key consequence of obscuring the manner in which Katz and Lazarsfeld are really pioneering a notion of social network analysis, instead redirecting all critical conversations about media influence into rather banal discussions about the size of a particular media effect. What this tendency to collapse Katz and Lazarsfeld does is obscures the distinctions that *actually* matter: the role played societal and cultural level factors in social network diffusion (concentrating instead on individual level factors) along with the related but not identical intellectual distinction between media artifacts that create meaning versus those that stimulate action. Confusion about these categories has led to an intellectual situation where the *image* of two simplified, badly remembered paradigms can serve as a scholarly impetus for a model of social media effects that emphasizes large-scale effects which travel through social networks, effects that operate at an individual level yet paradoxically have society-wide outcomes.

Remembered paradigms as boundary objects

The two remembered paradigms that provide intellectual sustenance to the current power-effects oriented strand of platform research are each retroactively invented, over-simplified, and historically inaccurate—and more powerful for all that. These paradigms, rather than rising and falling as one displaces the other (Kuhn, 1962) exist instead simultaneously (Bowker, 2006). As Neuman and Guggenheim (2011) put it:

> While the literature of media effects is frequently characterized as a three-stage progression initially embracing a theory of strong effects followed by a repudiation of earlier work and new model of minimal effects followed by yet another repudiation and a rediscovery of strong effects (. . .) we argue that although this dramatic and somewhat romantic simplification may be pedagogically useful in

introductory courses, it may prove a significant impediment to further theoretical refinement and progress in advanced scholarship.

It is, then, this very simultaneity of frameworks that allows these multiple media effects paradigms to exist as intellectual boundary objects, with platform research, funding, and public attention drawing on both paradigms for coherence and strength. From the remembered hypodermic needle paradigm, Facebook researchers and the journalists who write about them are able to envision media messages as unidirectional propaganda which create widespread, irrational social effects. From the behaviorist two-step flow paradigm of Katz and Lazarsfeld, these scholars are able to think of Facebook as a web of nodal social linkages whose media messages effect individual behavior through a cascade of networked ties. Never mind that these two paradigmatic understandings of what Facebook "does" to politics are partially incompatible; it is from this incommensurability and heterogeneity that the current paradigm draws strength (Eyal, 2013; Stark, 2009).

Nevertheless, the existence of these paradigms does not determine which *aspects* of them current research will gravitate toward mostly strongly. Nor do they inevitably lead to particular epistemological outcomes. For this final step, we must turn toward the types of data that social media platforms generate, and how the methods deployed to understand that data create particular visions of the human (Hacking, 2006) and particular types of political subjects worthy of being understood.

Platforms and their effects

If we were to understand the history of communications research as a traditional story of paradigm replacement, we might see the role of Facebook and other social media platforms as returning us to a pre-Katz and Lazarsfeld era, with fears that Facebook is "radicalizing the world" (Broderick 2018) and that Russian bots are injecting disinformation directly in the bloodstream of the polity (Bradshaw and Howard, 2018). From a point of view informed by the notion of simultaneous paradigms presented above, however, things look rather different. For starters, research on Facebook cannot return us to a pre-Lazarsfeldian world of mass society and strong media effects insofar as there never was a genuine theory of the mediated mass society in the first place. If there never really was a scholarly theory of direct media effects exercised over an atomized population, we cannot be "returning" to this era in our analysis of Facebook, at least according to a post-paradigm perspective.

In the midst of these conceptual disjunctures lies data science, which is ultimately concerned with analyzing behavioristic action by networked, spoke-and-hub socializing individuals over a short period of time, action which occurs at a societal scale, and that in the aggregate dispenses with meaning creation and the "stuff" that stands between messages and the actions individuals take when exposed to them. In

the words of Fisher and Mehozay, this is a "performative conception" of human behavior:

> (. . .) in the sense that it gives primacy, even exclusivity, to what users do online—either consciously and intentionally or not. Such a conception seeks the surface rather than any deep structure; it foregoes any attempt to ground itself in or to offer any theory of the self, any claim for an etiology of behavior; overcoming any social categories, it also foregoes any essentialist notions of human beings, seeing them instead as amalgams of ever-changing, dynamic, lively data points. (2019, 13)

We can draw the distinctions between the different conceptual foci discussed so far together through the deployment of somewhat schematic a 2×2 table, one whose x-axis distinguishes between behavioristic and etiological accounts of action, and whose y-axis sees the subject of that action as either an individual or a category of grouping somehow above or transcending individual action:

In **Quadrant I**, we see "traditional behaviorism" of the Skinnerian variety, concerned with the stimulus–response relationship between media inputs and individual responses. While some version of this orientation might be found in laboratory based psychological media research, one of the insights gained by distinguishing between behavioralism and behaviorism is the demonstration that classic behaviorism has been rare in media scholarship. **Quadrant II** (the two step flow) also concerns itself with individuals in the behaviorist sense insofar as the main area of focus is individual, short-term, action producing effects of media exposure, but is distinguishable from Skinnerism due to its focus on various mitigating factors (pre-existing beliefs, social-network mediations, the input of friends and family, etc.), as well as its invention of the notion of the "social network" model of information flow.

Traditional Behaviorism [I]	**Two-Step Flow** Individual, networked and short-term but also concerned w meaning [II].
Hypodermic Needle Never really existed, but exists as a memory paradigm [III]	**Various Critical Paradigms** Understand the two-step flow as behavioristic and thus not concerned with meaning. Not concerned with social-networks. [IV]

Figure 1 Four quadrants of effects scholarship.

Quadrant III—concerned with behavioristic action on the part of "the mass"—would describe the War of the Worlds panic and the "hypodermic needle" theory of media impact, if such a thing ever actually existed. **Quadrant IV**, finally, is the largest and most diffuse but also the most common perspective of many media researchers, particularly critical ones. This paradigm is concerned with how collectives beyond the individual level make meaning out of the media. In this we can see traces of hegemony theory, audience research, cultural studies, and even the kind of media ecology practiced by the Toronto School and other "technological determinists."

Where would Facebook and various other social-media influenced perspectives on media effects be placed? As I will expand upon in the next section, part of the dilemma of Facebook is that it "breaks the quadrants."

Facebook, in other words, sits comfortably on the "behaviorist/non-etiological" side of the spectrum, but blurs the line between a mass understanding of action and an individual one, and also reframes the notion of individual level effects on the new (and old) terrain of social networks. And because there has never really been a theory of "mass media influence," Facebook's vision of the human operates in the fuzzy shadow of the conceptual confusion between the analysis of the individual, the mass, and the **networked or epidemiological notion of crowd behavior.** Big data research thus draws on the "space between paradigms" for its conceptual strength, fusing historically non-compatible visions of social action and political meaning into a new understanding of what the media do. Key to this is the data generated by Facebook, the methods used in the analysis of that data, and the vision of the human that these methods construct. Turning to my third and final strand of STS scholarship, I here echo Donald MacKenzie's seminal work on financial markets:

> Financial economics . did more than analyze markets; it altered them. It was an "engine" in a sense not intended by [Milton] Friedman: an active force transforming its environment, not a camera passively recording it. (. . .) The academic discipline of economics does not always stand outside the economy, analyzing it as an external thing; sometimes it is an intrinsic part of economic processes. Let us call the claim that economics plays the latter role the performativity of economic. (MacKenzie, 2008, pp. 15–16)

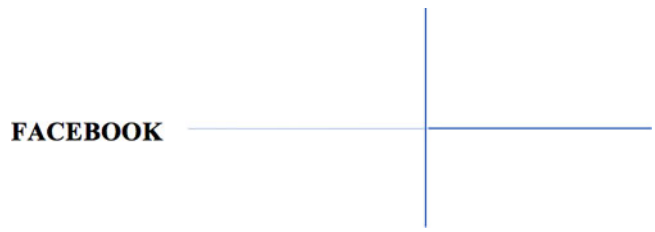

Figure 2 Facebook.

I want to argue the same thing about data scientists, both inside and outside the academy. To reframe MacKenzie's argument for our own purposes:

> (. . .) *data science* does more than analyze *political communication*; it alters it. It is an "engine": an active force transforming *politics*, not a camera passively recording it. (. . .) The academic discipline of *data science* does not always stand outside *politics*, analyzing it as an external thing; sometimes it is an intrinsic part of political *processes*. Let us call the claim that *big data analysis* plays the latter role the *performativity of data science*.

Facebook's vision of the human

In this final section, I argue that the main effect of Facebook on the media environment has been to advance a particular understanding of the human subject, a subject whose political behavior is understood in a manner that is related to, though also substantially different from, the way the media consumer was understood in previous methodological eras. In other words, Facebook choses to measure what the users of its platform do in particular ways, and this affects the way in which larger clusters of social scientists use Facebook to understand the effect of media messages on political action. Most controversially, perhaps, I would insist that this change in scientific focus itself changes the types of political subjectivity at work in the digital era. Hacking calls this process "looping effects," and MacKenzie, as we have seen, compares the situation to the activity of a reality-producing engine, not a passively recording camera. By looking at how Facebook constructs these different visions of what people do with and because of media content, the more conceptual differences I noted above between behavioral and behavioralist frames of research also become clearer. Facebook views the media ecosystem and the people within it as fundamentally responding to media stimulus, but at a massive epidemiological scale.

We can see echoes of this "engine not a camera" perspective in earlier critical scholarship. In his evisceration of the dominant paradigm, Gitlin's primary target was the larger social macrostructure that lay behind the notion of limited media effects. "There are thus three meta-theoretical conditions shaping any given theoretical perspective," he writes: "the nature of the theory or theories preceding (. . .) the 'normal' sociological worldview now current, or contesting the ideological field (in this case, behaviorism); and actual social, political, technological conditions in the world." He goes on to emphasize that it is the "methodological micro-assumptions" which are decisive here: "the theory of the two-step flow, and the specific approach to 'effects' in which the theory is embedded, are generated by a behaviorist worldview which makes itself decisive—and invisible" (Gitlin, 1978).

A number of discrete factors, then—industrial needs, modes of media production, the types of data that were available for scholars to study, a few standout studies, and a particular scholarly personality type—combined to create a particular constellation of communication science which was retroactively reinterpreted as

"the dominant paradigm." What is more, it created a particular type of subject; in Ian Hacking's terms, it "made up" a particular kind of person. "The human sciences," he writes "are driven by several engines of discovery, which are thought of as having to do with finding out the facts, but they are also engines for making up people" (Hacking, 2006). Scientific methods decide on a particularly legitimate manner for measuring human beings, a manner of calculation which then serves to classify people according to certain types, types which then partially co-construct the very people they are said to be measuring (Eyal, 2013). While such a nominalist notion of human nature may be controversial when stated in its most extreme form, it is hard to disagree with the more general point that subjects are at least somewhat defined by the discursive and assessment devices which represent them in scientific and mediated space.

Lazarsfeldian media research made up a human subject whose most important attributes were the psychological factors (primarily external stimuli in the form of communications messages) that led individuals to make short term decisions about politics, voting, or purchasing consumer goods. What type of human subjects are made up by the dominant forms of social media platform research? What looping effects does Facebook data science create: how are users of Facebook understood, categorized, and studied, and how do these categorizations loop back to reinforce certain understandings of human behavior?

To answer this final question, I want to turn to some suggestive passages in Noortje Marres work, passages that can be found in her insightful intervention into debates on the role of fact-checkers in political journalism (Marres, 2018). While the bulk of the article is concerned with mediating between commentators who lament that digital media technologies have led to the rise of post-truth politics and other scholars who want to hold onto a more constructivist vision of facts, there are several provocative assertions in her discussion about social media as a "truth-less public sphere *by design*" (2018, emphasis added). Marres refers to a "behavioral vision" that has "informed the design of social media architectures and encourages a conception of users as influenceable subjects, not knowledge agents."

> (. . .) computational social scientists prize online platforms for enabling a science of society that does *without interpretation*: on Facebook and Twitter, the argument goes, social and political processes can be measured by tracing action—by what is shared, linked, clicked, purchased. As one group of data scientist put it: "we do not have to consider people's opinions at all" (Neuman et al., 2007), considering it progress that in digital media public *opinion formation does not need to be defined as an interpretative process.* (Marres, 2018, 435)

This clearly relates to what Fisher and Mehozay have called labeled the "move from an ascriptive conception of individuals in the construction of the audience in the mass media to what might be called a performative conception of the audience in digital media. This entails seeing individuals based on the behavioral data they produce (Rouvroy and Stiegler, 2016), bypassing their self-understanding, and

identifying patterns from which a predictive behavioral analysis can be educed. There is plenty of knowledge on Facebook and Twitter, Marres argues, and plenty of truth there too. What is missing from these platforms, however, is a sense that human interpretation matters in any significant sense; what matters for Facebook's data scientists is *traceable behavior*, and not the beliefs, opinions, and internal states of being. The type of human subject who is "made up" by social media is a subject who acts on the surface of digital space, and whose actions can be understood in aggregate as producing certain real-world states of affairs. "Social media present a research-centric apparatus," Marres argues "in that their design directly reflects the epistemic needs of the data scientists whose analytic operations are key to their commercial model: to target information to groups of friends, to track shares and likes in the aggregate. This analytic architecture is shot through by behavioral assumptions: the activities that platforms enable—to influence, to make trend—have the 'manipulability' of users as their primary feature." (2018)

Not only is Facebook's episteme algorithmic (Fisher and Ehozay, 2019); it also blurs the line between mass and individual conceptions of subjectivity as well. One the one hand, social media systems target billions of decisions by billions of individual users, regardless of larger categorical classes. One the other, in popular culture and increasingly in data science, this behavior is often understood as *mass* behavior, in part due to Facebook's own viral or epidemiological notions of media transmission. The behavior of media on social media platforms operates in the fuzzy border zone between truly individual and truly collective behavior in the same way that an outbreak of some sort of debilitating contagion blurs the lines between individuals and mass. The fact that there has never been a true theory of mass media action, and the simultaneous overlap between multiple paradigms, helps embed this problem even more deeply in the minds of communication and media researchers.

Placing these thoughts into Hacking's terminology leads to some chilling conclusions. Facebook categorizes its human users as subjects who act, and whose acts are influenced by short-term communicative stimuli. This action can be tracked and recorded at a massive scale, without too much concern about why users act and interpretive processes that lead them to act the way they do. These mass actions have consequences because they occur at scale, and these consequences can be at least provisionally measured. In the political realm, there is already a homology between the goals of Facebook's data scientists and political campaign operatives, who are fundamentally concerned with a single but two-part decision—the decision to vote, and the decision to vote in a particular way. These looping effects help reify a certain kind of social-media-political-subject. These processes of categorizing human subjects, and the looping effects that in turn being them into worldly existence, also creates downstream effects for academic scholars who are concerned with studying social media and using social media data. Much like Lazarsfeld, the combination of these scholars' traditional methodological concerns (historically behaviorist), the data available to them (large-scale social media data), the looping effects of

methodological choices already made by data scientists, and the concerns of political operatives (decisions, again) create a certain type of scholarly paradigm.

Conclusion

This article has attempted to uncover the intellectual, economic, and methodological structures that have led to the recent emergence of a particular notion of digital communication on social media platforms that emphasizes the power of (false) media messages to cause irrational political behavior, one that combines individual level effects with a networked notion of society and information diffusion. After pointing out some of the real political-economic forces at work in setting the contours of this growing intellectual turn, I discussed how spaces between mutually constructed but overlapping paradigmatic understandings of media behavior lead to platform theories that serve as a boundary object, linking (and misunderstanding) older fields in order to advance new agendas. I then turned to the consequences of particular methodological choices, choices and methodologies that have to be analyzed as not simply internal to academia but as part of a larger system of public, private, and intellectual discourse. The article drew on key works in STS to make the point that these methodological choices not only establish scientific fields, they construct certain types of human subjects as well. In our own digital age, Facebook's research agenda and available data has also created a certain type of human subject, one that is itself behaviorist, anti-interpretive, and only relevant when it acts at a massive scale. This research agenda has had effects on the field of communications research as well, insofar as it leads to certain forms of knowledge and methodology being seen as "legitimate" for political communication researchers, one that aligns with the historically dominant instincts in the field, determines which projects are worthy of funding, and reifies the data science already being carried out at social media platforms.

What, finally, should we as researchers do about all this? It seems inevitable that we need to once again become more confident on investigating the *meaning* of media texts and the *interpretation* of those texts in a way that is not reducible to effects, behaviorism, or stimulus and response. In practical terms, we need to look harder at media culture as an autonomous real of digital platform politics in a way that is not reducible to either user practices or the political-economic nature of platforms themselves (for an expanded version of this augment see Author, forthcoming). Conducting this kind of interpretive research (work where scholars are allowed to exercise their own interpretive judgement, but also research where human subjects are allowed to express their own interpretations of media artifacts and social settings and have these interpretations taken seriously) seems easy to do—but it may actually be quite hard, and possibly even the artifact of an earlier, more humanistic era.

These days, after all, we seem to be swimming in data points, living our lives in an anti-interpretive age (Anderson, 2020). While dominant paradigms may always be partial and after-the-fact reconstructions of a given political and social moment,

they are never entirely ungrounded in an actual state of affairs. In our current political moment, interpretation is a luxury—for both scholars and citizens. Action, and measuring action, is power. And if both the revisionist and standard history of the communications field teach us anything, they teach us that knowledge, and the money through which knowledge is built, will always follow power.

Notes

1 This article was written before the outbreak of the virus Covid-19; however, it was copy-edited and published afterward. Assuming academia survives this crisis, the author is expecting an explosion of papers with pandemic metaphors that explain the rise of fake news.

2 Many thanks to Daniel Kreiss, Shannon MacGregor, Jefferson Pooley, Ben Peters, Julia Sonnevend, Pablo Boczkowski, and three anonymous reviewers from *Communication Theory* for their helpful comments on this article. None of them are of course responsible for the final argument. I would like to dedicate this article to Todd Gitlin, in whose spirit it is intended.

3 For this point I owe a great debt to Andy Chadwick, whose useful Twitter exchange of early November 2018 helped set the overall contours of this article.

4 I am grateful to an anonymous reviewer for the clear formulation of this insight, which was only tacitly expressed in an earlier draft of the piece.

5 Many thanks to Pablo Boczkowski for pointing me to Bowker's work here.

References

Anderson, C. W. (2020). Practice, interpretation, and meaning in today's digital media ecosystem. *Journalism & Mass Communication Quarterly*, 97(2): 342–359.

Anderson, C. (2008) The end of theory. *Wired Magazine*.

Bennet, L., & Iyengar, S. (2008). A new era of minimal effects? The changing foundations of political communication. *Political Communication*, 58(4): 707–731. doi: 10.1111/j.1460-2466.2008.00410.x

Bennett, L., & Kidd, J. (2017). Myths about media studies: the construction of media studies education in the British press. *Continuum*, 31(2): 163–176. doi: 10.1080/10304312.2016.1265096

Brabazon, T., Goldson, A., Golding, P., Williamson, M., McDougall, J., & Cynthia B. Meyers (2019). Is Media Studies About to Go Viral? *Times Higher Education*. Retrieved from https://www.timeshighereducation.com/features/media-studies-about-go-viral

Bowker, G. (2006). *Memory practices in the sciences*. Cambridge, MA: The MIT Press.

Bradshaw S., & Howard, P. (2018). *Challenging Truth and Trust: A Global Inventory of Social* Media Manipulation. Retrieved from http://comprop.oii.ox.ac.uk/wp-content/uploads/sites/93/2018/07/ct2018.pdf.

Broderick, R. (2018) *This is How We Radicalized the World*. Retrieved from https://www.buzzfeednews.com/article/ryanhatesthis/brazil-jair-bolsonaro-facebook-elections.

Cassauwers, M. T. (2019). *Can artificial intelligence help end fake news?* Retrieved from https://horizon-magazine.eu/article/can-artificial-intelligence-help-end-fake-news.html.

Couldry, N., & Hepp, A. (2017). *The Mediated Construction of Reality*. Cambridge, England: Polity.

Karpf, D., Kreiss, D., Nielsen, R. K., & Powers, M. (2015). The role of qualitative methods in politics communication research: Past, present, and future. *International Journal of Communication,* 9(2015): 1888–1906.

ERC Grant of 1.5 Million Euros Awarded to Joana Goncalves De Sa For Research About Fake News (2019). Retrieved from https://www.unl.pt/en/news/general/erc-grant-15-million-euros-awarded-joana-goncalves-de-sa-research-about-fake-news.

Eyal, G. (2013) For a sociology of expertise: The social origins of the autism epidemic. *American Journal of Sociology*, 118(4): 863–907. doi: 10.1086/668448

Faris, R., Roberts H., Etling, B., Bourassa, N., Zuckerman, E., & Benkler, Y. (2017). *Partisanship, propaganda, and disinformation: Online media and the 2016 U.S. Presidential Election*. *Berkman Klein Center for Internet & Society Research Paper*. Retrieved from https://dash.harvard.edu/bitstream/handle/1/33759251/2017-08_electionReport_0.pdf.

Fisher, E., & Mehozay, Y. (2019). How algorithms see their audience: media epistemes and the changing conception of the individual. *Media, Culture, and Society* (Online first).

Gill, S. (2019). *Strengthening democracy in the digital age: Knight's $50 million investment in a new field of research*. Retrieved from https://medium.com/trust-media-and-democracy/strengthening-democracy-in-the-digital-age-knights-50-million-investment-in-a-new-field-of-1fc4fadf5ec4.

Gitlin, T. (1978). Media sociology: The dominant paradigm. *Theory and Society*, 6(2): 205–253. doi: 10.1007/BF01681751

Grossberg, L., Wartella, E., Whitney, C., & MacGregor Wise, J. (2005). *Media making: Mass media in popular culture*. London England: Sage.

Hacking, I. (2006). Making Up People. *London Review of Books*. Retrieved from https://www.lrb.co.uk/v28/n16/ian-hacking/making-up-people

Hauptmann, E. (2012). The ford foundation and the rise of behavioralism in political science. *Journal of the History of the Behavioral Sciences*, 48(2): 154–173.

Jamieson, K. (2018). *Cyberwar: How Russian hackers and trolls helped elect a President. What we don't, can't, and do know*. Oxford, England: Oxford University Press.

Jansen, S. (2009). Phantom conflict: Lippmann, Dewey, and the fate of the public in modern society. *Communication and Cultural/Critical Studies*, 6(3): 221–245. doi: 10.1080/14791420903049751

Katz, E. (1987). Communications research since Lazarsfeld. *The Public Opinion Quarterly*, 51(2): S25–S45. doi: 2010.1093/poq/51.4_PART_2.S25

Katz, E., & Lazarsfeld P. (1955). *Personal influence: The part played by people in the flow of mass communication research*. New York: Free Press.

Kuhn, T. (1962). *The structure of scientific revolutions*. Chicago, IL: University of Chicago Press.

Latour, B. (1988). *Science in action: How to follow engineers and scientists through society*. Cambridge, MA: Harvard University Press.

MacKenzie, D. (2008). *An engine, not a camera: How financial models shape markets*. Cambridge, MA: The MIT Press.

Marchal, N., Neudert L., Kollanyi, B., & Howard, P. (2018). *Polarization, partisanship and junk news consumption on social media during the 2018 US Midterm Elections*.

COMPROP DATA MEMO 2018.5. Retrieved from https://comprop.oii.ox.ac.uk/wp-content/uploads/sites/93/2018/11/marchal_et_al.pdf.

Marres, M. (2018) Why we can't have our facts back. *Engaging Science, Technology, and Society*, 4, 423–443. doi: 10.17351/ests2018.188

McQuail, D. (2005). *McQuail's mass communication theory* (5th ed.). London, England: Sage.

Neuman, R., & Guggenheim, L. (2011). The evolution of media effects theory: A six-stage model of cumulative research. *Communication Theory*, 21(2): 169–196. doi: 10.1111/j.1468-2885.2011.01381.x

Pooley, J., & Socolow, M. (2012). War of the words: The invasion from mars and its legacy for mass communication scholarship. In J. E. Hayes, K. Battles & W. Hilton-Morrow (Eds.) *War of the Worlds to Social Media: Mediated Communication in Times of Crisis*. Oxford, England: Peter Lang.

Radio Listeners in Panic, Taking War Drama as Fact (1938, Oct 31). *New York Times*.

Silverman, C. (2016, November 16). This analysis shows how viral fake election news stories outperformed real news on Facebook. Buzzfeed. Retrieved from https://www.buzzfeednews.com/article/craigsilverman/viral-fake-election-news-outperformed-real-news-on-facebook.

Simonson, P. (2016). The rise and fall of the limited effects model. In J. Neone (Ed.) *The International Encyclopedia of Media Studies, volume one: Media history and the foundation of media studies* (pp. 632–656). Hoboken, NJ: Blackwell Publishing.

Social Media and Democracy Research Grants (2019). Retrieved from https://www.ssrc.org/fellowships/view/social-media-and-democracy-research-grants/#overview.

Stark, D. (2009). *The sense of dissonance: Accounts of worth in economic life*. Princeton, NJ: Princeton University Press.

Tackling Online Disinformation (2019). Retrieved from https://ec.europa.eu/digital-single-market/en/tackling-online-disinformation.

Tönnies, F. (1957 [1887]). Community and society. [Gemeinschaft und Gesellschaft]. Langsing, MI: Michigan State University Press.

Whistleblower Explains How Cambridge Analytica Helped Fuel U.S. 'Insurgency' (2019, October 8). Fresh Air. Retrieved from https://www.npr.org/templates/transcript/transcript.php?storyId=768216311.

Wimmer, R.D., & Dominick, J.R. (2014) *Mass media research: An introduction* (10th ed.). Boston, MA: Cengage Learning.

Wylie, C. (2019, October 8). Whistleblower explains how Cambridge Analytica helped fuel U.S. 'Insurgency.' *Fresh Air*. Retrieved from https://www.npr.org/programs/fresh-air/2019/10/08/768222377/fresh-air-for-oct-8-2019-cambridge-analytica-whistleblower-christopher-wylie.