Artificial Intelligence in Politics

Establishing Ethics

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Recent advances in Artificial Intelligence (AI) have produced AI tools that help political campaigns to prevail in election cycles. There have been notable early successes for campaigns using this technology, particularly in 2016 for the Trump presidential campaign and, during the Brexit referendum, the U.K. Leave Campaign. Critiques of these pioneering tools argue that they have adopted unethical practices, and that monitoring the ethical use of such tools is too complex a task, particularly when tools are the intellectual property of private corporations. This article challenges that notion and proposes a way to engage in dialectics with advanced tools of AI in governance as they go about their tasks. The proposals presented here could help electorates around the world to build up observable integrity within their election cycles and thereby increase levels of trust in the societal institutions tasked with ensuring them free, fair, and open election conditions.

Segmentation-Targeting-Position Strategy and Facebook for Politics

Facebook is a company that has built its own social networking platform and has then transformed it into a world-beating commercial business(15) . A condition for use of the Facebook platform is that users must share their social networking information with Facebook. This allows Facebook to customize a unique environment for each user that is based on preferences the user has shown as she has gone about her social networking activities.

Facebook stores its mass of volunteered user's data in company-confidential data warehouses and monetizes this asset by, among other things, selling business customers

Digital Object Identifier 10.1109/MTS.2019.2894474
Date of publication: 6 March 2019

partial access to its anonymized user data. Businesses, typically, harness Facebook's user data assets in marketing campaigns to successfully market their company products to carefully chosen populations of Facebook's users.

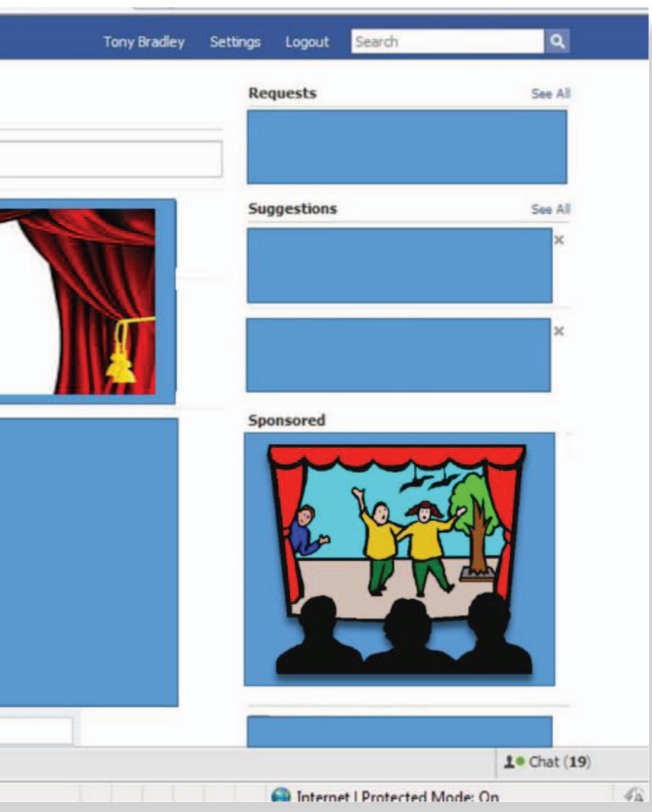
A Facebook digital marketing strategy tends to be a Segmentation-Targeting-Positioning (STP) strategy (4), whereby, a marketing team will use tools to segment a population into different groups according to various characteristics, such as, for example male, single father, age under 30. Targeting is the process of selecting one or more of the segments to work on. Positioning is the process of detailing how members of the segment will be approached and what strategy will be used to bring the task to completion. Facebook allows business customers to position materials directly to Facebook users while they are active in their social networks, and even while they are on other platforms.

In 2014 quarterly earnings call transcripts from Facebook's Chief Executive Officer, Mark Zuckerberg, described three, five, and ten year plans for company development and growth (28):

1) "Over the next three years, our main goals are around continuing to grow and serve our existing communities and businesses and help them reach their full potential";
2) "Over the next five years, our goals are around taking our next generation of services, Instagram, Messenger, WhatsApp, and Search and helping them connect billions of people and become important businesses in their own right."
3) "For the next ten years our focus is on driving the fundamental changes in the world that we need to achieve our mission, connecting the whole world, understanding a world with big leaps in AIs and developing the next generation of platforms, especially in computing."

In his 2017 quarter two(11) results presentation, Zuckerberg also said,

4) "Now you can put a creative message out there, and AI can help you figure out who will be most interested. A lot of the time you don't even need to target now because AI can do it more precisely and better than we can manually. This makes the ads that you see more relevant for you and more efficient for businesses. Those are just a few of the reasons why I'm optimistic about how AI is going to improve our core services over the next few years."



Digital STP marketing tools have been very successful for Facebook. It was clearly a logical business move for Facebook to explore the development of a similar service to support businesses involved in electioneering (26). To that end Facebook produced the tool, Facebook for Politics (FfP). An application of FfP in an election-cycle can be considered as a contractual partnership between Facebook Inc. and a campaign customer (CC) which hires the tool to positively influence unsuspecting social network users towards the CC's desired electoral perspective. The six-step description of the business contract between Facebook and the CC are as described in the FfP getting-started page(10):

1) Find your voters on Facebook.
2) Build email lists and raise donations through always-on Dynamic Retargeting campaigns.
3) Influence online and offline outcomes through dynamic retargeting and videos.
4) Use sight, sound, and motion to persuade voters.
5) Get voters to the polls.
6) Take your victory speech. Live!

We will not focus on step 2 of this process, although this is an interesting topic in its own right.

Although FfP has been a very profitable tool for Facebook (7), Facebook has found itself embroiled in election controversies (18). While many political campaigns have used FfP and other social-media tools to fire-up supporters, there have been severe critiques of the role that FfP has played, particularly in the Brexit referendum and the 2016 U.S. presidential election (2), (20). There has been concern from academia that such powerful AI tools as FfP are wholly black-box items whose development is company-confidential and whose direction is closed to

scrutiny (14). There is a worry among journalists (13), (19), technologists (21), (22) and social-networking expert politicians (9) that society is not capable, and has not been for some time, of accommodating, monitoring, and controlling such tools.

This article will address the distinctions between a standard STP marketing strategy for selling a commercial product to prospective customers and employing FfP to work for a CC in order to influence how a person will cast their vote in an election. Significantly, FfP works by actively targeting and retargeting unsuspecting people, (chosen by a political campaign or by a segmentation tool), who have been painstakingly psychologically profiled(8), (23) for the CC and then exposed to materials (video, audio and textual) that are expected to produce a desired cognitive commitment to the CC's electoral message in the targeted person's voting intentions. Key problems that arise in analyzing the workings of FfP include the company-confidential nature of the business partnerships, outsourcing of activities, and algorithmic tools used to provide the service.

The approach adopted here is to view social networking activities from a theatrical perspective and to explore the steps of FfP activity as play-within-a-play activity from an advanced black-box AI entity. The FfP black-box entity is compared with the Searle black-box entity and allows us to draw distinctions that posit FfP as an artificial person with co-opted features of human intelligence. This paper concludes that powerful sociotechnical AI tools such as FfP cannot be understood as traditional standalone AI systems and need to be policed as would any human being who had interests and abilities to influence the voting intentions of hundreds of thousands of voters simultaneously. A model for ethical governance is presented along with number of ethical questions.

Social Networking in Black-Box Theatrical Spaces

"What's he building in there?
I'll tell you one thing, he's not building a playhouse for the children
What's he building in there?"(34)

A user's social networking space can be considered an algorithmically arranged window onto the ongoing real-life activities of her significant others: providing connectedness with the daily updates of friends, family and causes of importance to her. These interests and friend activities are brought to her attention via Facebook social-networking algorithms that present the relevant materials on a specially constructed web page under various topic headings, such as newsfeeds, sponsored pages, requests, and suggestions. The newsfeed section of a user's Facebook page is constantly being updated with stories, images, and entertaining suggestions, algorithmically placed by Facebook algorithms, which may be of interest to the user. The user can interact with the lives presented to her using various action affordances, such as "like," "watch video," "comment," "share," etc., that are provided to her by Facebook. A typical Facebook page layout is shown in Figure 1.

Up until January 2018, Facebook offered two main kinds of algorithmically placed ads on a Facebook page: a newsfeed ad and a sponsored ad. A sponsored ad is placed in the right-hand column of the Facebook page. A newsfeed ad, which is significantly larger, is placed in the central column of a user's newsfeed.

Newsfeed content and newsfeed ads have been a focus of controversy since Facebook's deliberate interference with newsfeed services to over 600 000 people in one week in 2012 (6). The experiment charted the emotional impact of people seeing positive newsfeed stories increased or reduced by 10-90% in their newsfeed window. An argument that has been used to mitigate the seriousness of the experiment is that everything in the Facebook environment is manipulated by Facebook, and this experiment is just another aspect of that accepted reality (24). More pertinently, during the U.S. election campaigns of 2016, bogus news producers were discovered (32) whose sole purpose was to generate stories that exploit the Facebook's newsfeed algorithm to attract supporters of Donald Trump to their website and thereby bring advertising income to the site owners. Stories run by

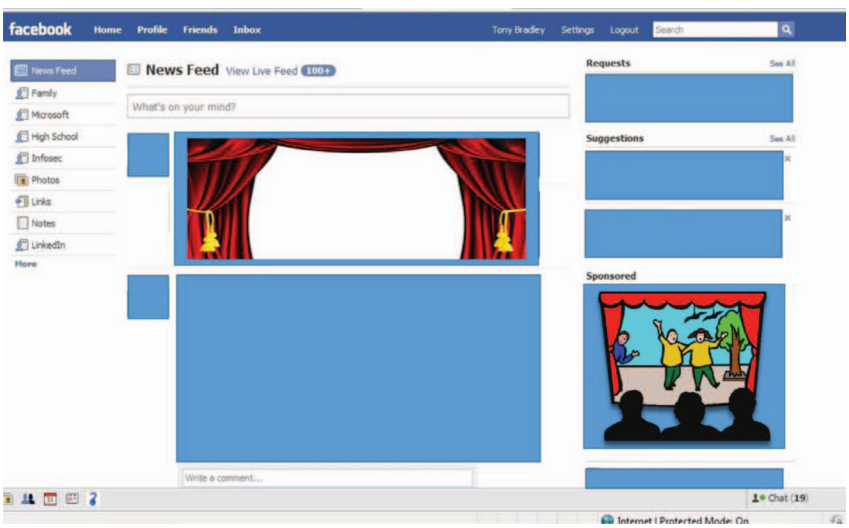


FIGURE 1. Typical Facebook page with newsfeed ad and sponsored ad placement.

these producers were found to be exciting, deliberately misleading, and some were egregiously harmful [29] — such as news stories of Hilary Clinton being involved in serious crimes, or stories supporting voter turnout which presented the wrong day for the U.S. presidential election [19], [20]. We note in passing that algorithmic activity was significantly implicated in the deployment of these fake news outlets and fake stories to deceive people in an election cycle. Were it to be found that FfP support for a CC encouraged this activity in order to win a national election on behalf of a CC, this would be an existentially much more worrying form of deceit than that, which is so far unsuccessfully tested for, in the Turing Test [31].

Responding to criticisms of Facebook's role in Brexit and the U.S. presidential election, a major change in policy was instigated at Facebook in January 2018 [25], [35]. The new changes drastically cut back the use of newsfeed ads in a person's newsfeed window, and will most likely curtail the strategic positioning of political ads that will influence future elections. Sponsored ads are not affected by this change, and they will have to find favor with the Facebook positioning algorithms as they had to in the past.

Our concern with the elections of 2016 is whether we have more lessons to learn about the importance of ethics being used to challenge tools such as FfP. We will examine the work of FfP in a user's social space as a play within a play: a business-focused theatrical performance to be played out over the duration of the FfP contract on the user's social networking space. This metaphor encompasses the fact that there are not just AI algorithmic tools employed in the theatrical activities; there are also organizations and professionals who contribute to the successful delivery of the FfP service. Rather than exploring the algorithmic aspects of FfP alone, it is the combined cognitive ability of the whole partnership of actors, as contractually co-obligated, that is the primary concern of this investigation.

FfP as Play-Within-a-Play Activity on Social Networks

A first point of difference between an STP campaign and a FfP campaign is the closeness of the segmentation — in FfP each customer audience member is individually, psychologically profiled. We will look at FfP's targeting and positioning interaction with each member of a custom audience in her social networking activity as co-ordinated acts of interference in a bespoke (made-to-order) play. The three acts of the play include the scaffolding that is required for FfP to work properly, the ongoing FfP influencing activity, and the de-scaffolding activities which end the FfP activities.

ACT 1: Scaffolding

Scaffolding is those activities that see the custom audience being created. The CC may provide the custom audience directly to Facebook for use in FfP. Any data discovery that has been done on each member of the custom audience by the CC has been done external to FfP. CC information will be enhanced by Facebook information.

Scene 1

A political campaign compiles an email list of voters that it would like to target — this is absorbed into Facebook as a "custom audience." The custom audience is delivered to Facebook along with any other information that the campaign may have on each individual voter, such as what their political habits are, what their real name is, their address, phone numbers, etc. This is the "intelligence" that the political campaign has already gathered on the people they wish to influence.

Scene 2

The intelligence on each individual is merged with the knowledge that Facebook continually stores and accrues on each of its users [30]. Custom audience members are positioned on psychological metrics, such as the Openness-Conscientiousness-Extraversion-Agreeableness-Neuroticism [23] scale. Merging of information sources with psychometric measures gives CCs the basis of a strategy for persuading a person to an intended cognitive stance.

Scene 3

This information, along with other AI tools can be used to identify such things as who are the political influencers in the custom audience. There needs to be a step-wise explication of the persuasion-engineering methodology to be applied in order to move someone from their noted, current cognitive position to a desired cognitive position over time, along with the means of tracking and directing the progress of the persuasive methods. The engineering activities of the methodology may be called "persuasioneering." A targeting mix, suited to the individual, including suggested video, audio, and blog materials (addressed to the user's cognitive position and psychological profiling) is chosen to have maximum impact on each particular custom audience member to bring her to the desired cognitive opinion.

ACT 2: Influencing

During this time, the CC can pay for service support from Facebook on the most effective use of FfP, can introduce fresh strategies, can pay to have members of Facebook seconded to the election team to assist during the election period. At each moment inside FfP activities when someone in the custom audience has their profile changed, or has a new strategy applied, or is exposed to particular FfP materials on their social networking space — at that moment FfP is expressing the ethical position that how it is performing is ethically valid. What we intend to insert,

at each of these interactivity points, is an entity capable of providing significant ethical scrutiny.

Scene 1

Once a user has typed in the address of a Facebook page, the process of assembling the materials to be placed on the page takes approximately 0.1 second (20). During this time Facebook algorithmic decisions are made so that a fresh page is created for the user in real time. Each audience member is ranked in order of significance to the campaign, and decisions are taken to influence each individual accordingly. As part of the targeting strategy, each individual also has a current cognitive position, a cognitive distance mapper, and a strategy in place to facilitate smooth cognitive transitioning. With respect to the person's psychological profile, materials are chosen that are thought to be most suitable for each person's journey from their current cognitive position to the cognitive position that is required of them at the end of the persuasion period and a bid is made to have FfP materials placed on the user's page.

Scene 2

Appropriate video, audio, and blog materials are accessed for influencing each custom audience member appropriately. The CC may create sponsored ads, they may commission material, they may search across social networks for materials to use. On the one hand, neither FfP nor the CC can be held responsible for materials that are produced by any third party working for the CC; on the other hand, FfP applies these third-party materials specifically to influence users on Facebook's social network as a consequence of its contractual obligation to the CC. Responsibility lies somewhere.

Scene 3

Targeting and retargeting is focused on the importance of each member of the custom audience and how things are changing in the real world as they pursue their social networking intentions in the allocated time period.

Scene 4

If a chosen cognitive destination for an individual is reached, the core persuasion activity for that individual may be stopped. There are other ways the FfP process can end. For example an anticipated cognitive movement may not be achievable from within the current contest, and a pause may be taken for some strategizing before the contest is restarted.

Alternatively, a managerial directive can impose termination from outside of the contest, as for example reaching Election Day. All end-point resolutions, those achieved within the system, or those imposed from without, are equifinal. If there is a need, new materials, new tools, or new strategies can be introduced where necessary, to press forward the campaign on the individual. Targeting and retargeting continues while the contract is live.

ACT 3: De-scaffolding

There are a number of ways FfP activities on a particular member of the custom audience may stop. The campaign may close down, the person may be brought to a successful state as required by the CC, the person may never be brought round to that state, or the person may be considered unimportant to the campaign.

Scene 1

A final report on the work that was done on the custom audience along with evidence of cognitive change activity over the period of the campaign is produced for the CC.

Scene 2

Facebook encrypts the FfP data and does not maintain it after the duration of the commercial contract. Note that the data passed to the CC, and consequently to any person the CC shares the information with, could be used as the basis of further influential work in a related business area.

We note that Facebook records all relevant activities that take place in the prepared space. There is therefore a trail being left for each targeted individual in and around all FfP activities — a trail that records what has been used, who introduced it into the persuasion process, how it was positioned, and when and how many times it was used. Each constructed page, created for each targeted and retargeted individual custom audience member can be reconstructed in less time than it takes to blink an eye. It would therefore be possible to reassemble complete performances given to each receiving member of a custom audience and to apply forensic data analysis on materials shown. Even now, an application of this method to either the Brexit referendum or the 2016 U.S. presidential election could be used to reconstruct over the timeline, the situation at the beginning of each scene, at the end of each scene, and each key decision and piece of material used across the timeline.

Selected, anonymized influencing activities of FfP could be made available to monitors — perhaps students at schools or college studying real-world ethics by means of telepresence (16) — or to societally respected organizations who are tasked with judging the fairness of elections. In either case, a close exploration of the FfP situation over an election timeline can highlight places where electoral principles are compromised, and make it possible to ascribe intentionality or blame to any loss of integrity.

FfP and Chinese Room AI

We will attempt here to relate the play-within-a-play activities to the well-established black-box AI system: the Chinese Room (27). Searle introduces his metaphor by saying:

> "Imagine a native English speaker, let's say a man, who knows no Chinese locked in a room full of boxes of Chinese symbols (a database) together with a book of instructions for manipulating the symbols (the program). Imagine that people outside the room send in other Chinese symbols which, unknown to the person in the room, are questions in Chinese (the input). And imagine that by following the instructions in the program the man in the room is able to pass out Chinese symbols which are correct answers to the questions (the output). The program enables the person in the room to pass the Turing Test for understanding Chinese, but he does not understand a word of Chinese."

Searle's room performs the key activity to answering questions in Chinese with semantic integrity. However, while the room is able to do this, the person inside it is merely carrying out prescribed steps and has no intelligent understanding of Chinese. Searle's room is a black-box entity that can pass the Turing test [31], but which does not understand the process the way a human would. Searle argued that no algorithmic AI can be considered as the equivalent of a minded entity.

The Chinese Room has thrown enormous insight into the issues that separate real intelligence from algorithmic step-following in a stand-alone program situation. There are, however, significant differences between the Chinese Room scenario and the application of FfP in an election setting. Kane [17] has suggested that advanced AI tools such as FfP must be considered as artificial persons that co-opt other artificial persons to achieve an intentional directive. Kane presents three kinds of artificial person (AP): an organizational artificial person (OAP), a professional artificial person (PAP), and an algorithmic artificial person (ALAP). These artificial persons derive from social contracts, need to be scaffolded and directed in some of their activities, have prescribed duties, and enjoy some level of autonomy.

Partnerships of artificial persons can make use of all the five recognized forms of Aristotelian knowledge [1]: nous (the capacity to reason), episteme (the capacity to demonstrate from first principles), techne (the capacity to perform), Sophia (the capacity to use universal truths) and, phronesis (the capacity of being able to calculate well to some good end). Episteme and techne are used in the situational space and employed in the performance space using nous. The actions of phronesis are the ability to decide on what to address (for each individual) in the situational space, how to perform in the performance space, and how to more closely approach any of the appropriate equifinal endpoints, either for success with any individual, or to the time-based endpoint that brings all FfP activity to an end. Phronesis is seen most clearly in choosing what tools to apply to which situations in the performance space, and harvesting the results of a period of performance to change the situation/tool space, and approach the endpoint of work. The phronesis used by FfP comes from many agencies — algorithmic, professional and temporal.

In contra-distinction to the person in Searle's Chinese room, we note:

1) FfP is a PAP-scaffolded ALAP with access to other contractually obligated artificial persons (O, P and AL) as required, many of whom are outside the system.
2) At each page load, the ALAP, FfP examines the current situation and the tools available, and chooses which materials will be presented for bidding to the page construction algorithm in order to bring the chosen materials closer the user's attention (Episteme and Phronesis)
3) If selected, the chosen tools perform in the performance space, the action being time-stamped and recorded by Facebook (Techne)
4) FfP then, with an eye on termination conditions, gathers the consequents of the application of the chosen tools: updating situations, and possibly altering tools present (Phronesis)
5) FfP will terminate at an agreed termination point for a member, or update the situation space with new information from the time-stamped performance (Phronesis)

Figure 3 shows the actions of FfP as an Artificial Person inside Searle's Chinese Room and shows six points

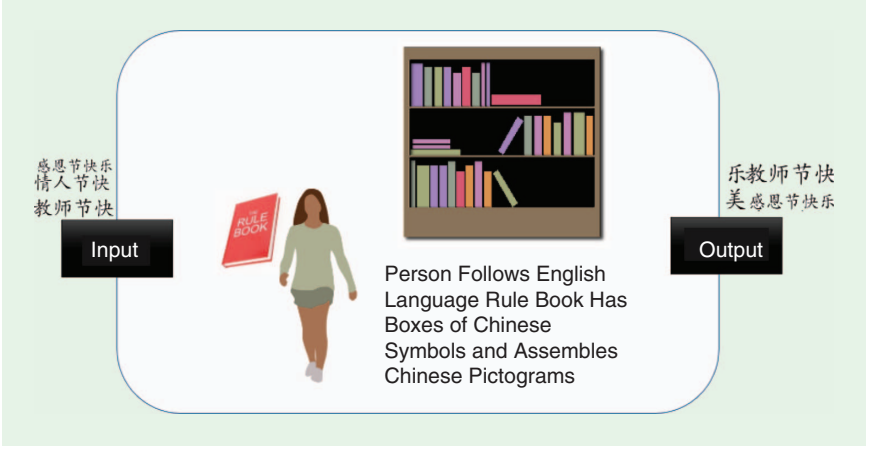


FIGURE 2. Searle's Chinese Room scenario - a black box of AI activity.

(starred) where important intentional agencies outside of FfP can steer it beyond the limitations of standalone AI systems and therefore make such systems formidable, intentional, and effective. Significantly, at each starred point, interventions can be made from outside to alter the operational process and address issues of undecidability that curtail standalone AI systems (12). This gives FfP access to external minds and the whole partnership could be considered as a Clarkian extended mind (5).

FfP is not playing chess, or answering questions in a foreign language. Even if is not as intelligent as a human being, the existential significance of FfP influencing democratic elections raises questions of how vulnerable society is to the whims of motivated political groups who can employ technologists with access to powerful AI tools that are never opened to scrutiny.

Regarding these partnerships, we know (3) of OAP partnerships between various political campaigns, Facebook, Cambridge Analytica, and Aggregate IQ during the Brexit campaign and 2016 presidential election. We also know that CCs paid for Facebook PAPs to be consigned to support users of the FfP tool during the Brexit campaign and in the U.S. general election (20). Also, in 2018, we saw Cambridge Analytica describe how it was able to subvert national elections (33), and also, by closing down, disappear out of existence as an intentional OAP. The societal elements active in an election campaign need to be brought forward and seen to be scaffolding ALAPs in a civilized manner. Such work is the work of professional ethicists.

Ethical Monitoring of Tools such as FfP in the Information Society

Accepting FfP as an ALAP highlights an important philosophical distinction between the traditional Chinese Room and the FfP electioneering services. Searle argued that even if the person inside the Chinese room memorized every aspect of the question-answering process, memorized every rule in the book, and could produce the Chinese answer texts without recourse to the book of rules, she would still not understand Chinese. In a complete application of FfP, if a person could encompass the knowledge of all of the APs involved, of placing someone on the OCEAN scale, and of apply all the techniques of cognitive positioning and appropriate story positioning, and of the scaffolding and existential scaffolding operations provided by PAPs in the partnership — and if she could apply the knowledge as FfP does — that person may not understand democratic elections, but she may come across not only as intelligent, but as super intelligent.

Large questions that could be raised regarding the action of such a person include:

1) Is there an essential role for academia to play in developing such tools? Perhaps the commercial environment is not an appropriate research domain for such powerful sociotechnical tools (14).
2) Regarding the balance between Facebook as a free social networking space and a business marketing space, along with Tom Waites, we ask "What's he

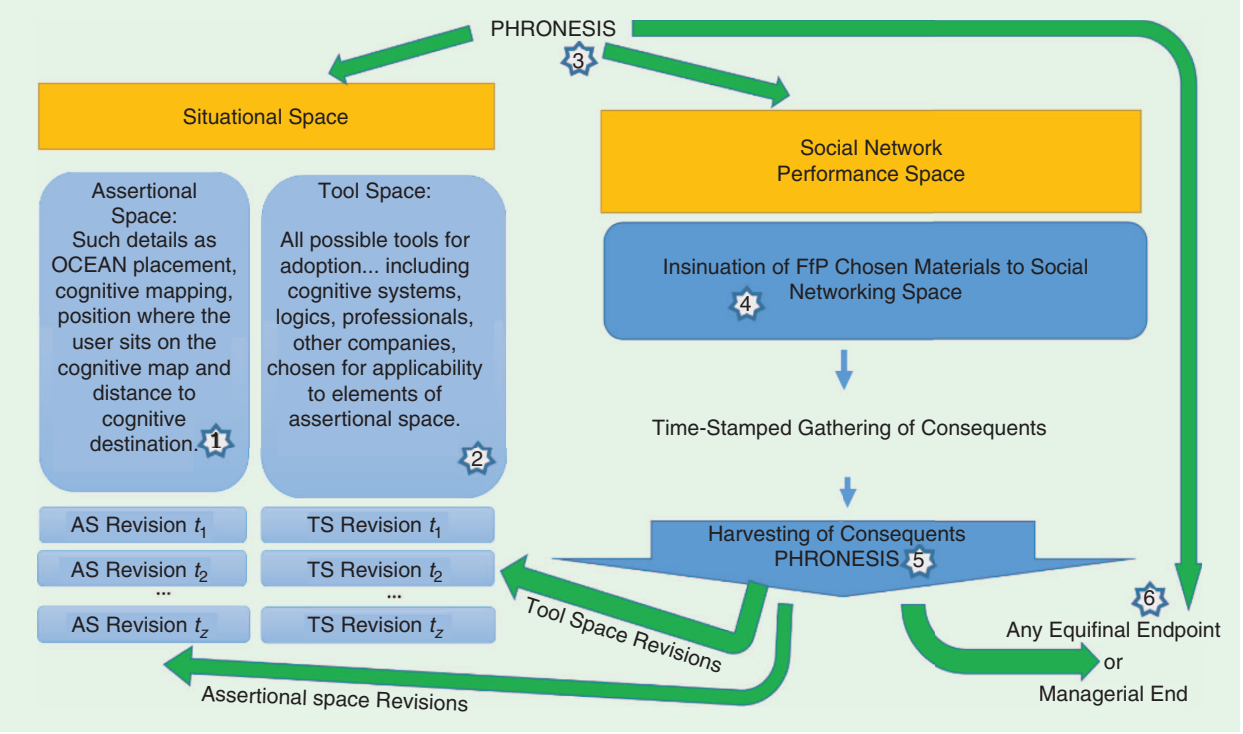


FIGURE 3. Significant points of activity of black box FfP as an ALAP.

building in there?" That question is to social network providers, societal policy makers, and lawmakers.
3) How can the legitimate business purposes of a global organization such as Facebook be protected and encouraged alongside healthy electoral practice?
4) What tools are in there? When do they come in, what do they do, do they leave a trace (e.g., videos or audios or blogs), and how do we categorize what is fed to voters?
5) What police can stand in each scene with FfP entities and ensure decent human behavior is observed?
6) What organizational body could take on such a task of overseeing difficult discussions between executive governments, global businesses, and societal bodies? Would it be the United Nations? Or the Red Cross? Or is some new global body required?

Regarding the operation of a tool such as FfP during an election cycle, now that each stage of the process can be identified, we could pose the following dialectic agencies into the process to question.

ACT 1: Scaffolding

1) Are there any social networking activities where it is inappropriate to allow business activities to use such psychological metrics and nudging techniques?
2) In the light of discovering that some videos used by FfP were shown to have been intentionally designed to mislead particularly profiled voters, how do we also ensure that ethical responsibility is appropriately spread across all of the organizations implicated in wrong doing?
3) If an examination of ethical questions such as these were to take place, what would an appropriate discursive setting between a global company such as Facebook, its users, and other societal stakeholders look like?

ACT 2: Influencing

1) Regarding algorithms, how can we granularize algorithmic activity sufficiently so that we can explore the human dimensions of black-box tools that manipulate the cognitive intensions of large numbers of mostly unsuspecting people who use social networks?
2) How can we nimbly protect voting rights in this new world of algorithmic nudging of voters?
3) How do we identify too much international interference in elections? How much is too much national interference? How much is too much business interference?
4) How do we separate message from messenger, fact from fiction, when any kind of video, audio, or blog item can be created, and often powerful deceit is decisive?
5) How do we stop unscrupulous organizations from taking advantage of short-life election and data complexity as they take control of strategic persuasion tools of AI for unethical purposes?
6) What about a digital police official working inside FfP, monitoring traffic that is passed to each receiver for outright lies. How could such police work be done? And how could breeches in ethical behavior be identified and immediately acted upon?

ACT 3: De-scaffolding

1) If a company such as Facebook has qualms about one of its persuasion tool products, how could it be positively encouraged to identify the harm that was done and make redress wherever appropriate, so that good uses of such tools could continue, and despicable uses snuffed out?
2) How can we ensure that APs are held to account — particularly in cases where political action committees (PACs) or other non-political APs purchase sufficient persuasioneering tools to produce an outcome impact in election cycles?
3) What societal organizations can police FfP so that tool nature is not used as an excuse to bury human activities that require ethical consequences to be faced.
4) Given the very small margins of victory for both president Trump and the Brexit campaign, what would constitute sufficient evidence of electoral malpractice to require annulment of an election process and a rerun of the election?

Opportunity to Undermine Democracy

Time-bound electioneering cycles provide very suitable contexts in which powerful people can attack and undermine democratic principles. The case is made that Facebook for Politics represents a new achievement in applied artificial intelligence and needs to be monitored as any powerful person would be. Given that the issues are societal, we argue that robust ethical encounters with technology should take place in a domain between AI, computer science, the humanities, social informatics, philosophy, and cognitive science. There may be many ways of doing this, such as:

1) Using trusted guardians of civil liberties, which are allowed to look over materials that may be impactful and have an adverse effect on an honest performance of the election cycle. Such guardians might include the United Nations, the World Health Organization, or the Carter Center. For materials that can be addressed dialectically, telepresence links between such organizations, and even schools, could be used to address the issues involved.
2) Using media forensics and machine learning to flag materials that do not adhere to standards of veracity, and halt their employment in the theater of persuasion until they can be verified as ethically acceptable.

Importantly, we need to reassert societal values above technological or commercial imperatives in election cycles. Ethical confrontation with technology in action, even proprietory technology, is liable to become an essential societal service in the Information Society.

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Acknowledgment

I would like to express my gratitude to my co-editor, Nick Novelli, for contributions to the development of the Chinese Room metaphor. I would also like to thank the magazine editor, Jeremy Pitt, for advice in simplifying this paper and bringing a steady focus of attention to the issues of concern.

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