

Information Operations



Information Operations

- Attack someone using information—bits
- Sometimes, it's propaganda—but Propaganda 2.0, geared to the Internet era
- Other times, it's hacking
- Sometimes, though, it's use of AI technologies

Caution

- This is a moving target
- There are new assertions every day about what actually happened
- (And, of course, new denials)
- **IMPORTANT:** Some assertions are in dispute; some are even credibly disputed
- **NOTE WELL:** This is *not* a lecture about the (alleged) evils of the Trump campaign—such details are included *only* to provide context
- Collusion, real or imagined, is out of scope!

Political Big Data: History



Political Campaign Advertising, 1952

- It's hard to believe today, but ~70 years ago, there were essentially *no* political ads of the type we take for granted today
- Adlai Stevenson, the Democratic presidential nominee in 1952 and 1952, *refused* to run marketing-style ads—he wanted to engage voters on the issues
 - The two parties' platforms were very similar back then
- The Democrats spent \$77,000 on ads—and the GOP spent \$1.5 million
- Guess who won...

Enter Simulmatics

- By 1956, the Democrats did try advertising, but Eisenhower won by an even bigger margin than in 1952
- It's hard to beat an incumbent
- And then came Simulmatics

Simulmatics

- Simulmatics tried to model the American population
 - It was founded by an ad man, some computer types, and a social scientist
 - Method: divide the population into 480 demographic groups
- Its original goal: to help the Democrats win in 1960
- Its recommendations to Kennedy: endorse civil rights; be up front about his Catholicism
 - Both were controversial in 1960!
- He did those and won—but had he listened to Simulmatics? Unclear.

Was Their Methodology Sound?

- It's unclear if Simulmatics' methodology was actually sound
- It tried to model population groups, rather than polling individual voters
- They tried using similar techniques in Vietnam during the war—and failed miserably
- The company went bankrupt by 1970
- But their essential insight—that analyzing large amounts of data was useful—was correct

Propaganda 2.0

Social Media

- The Russians clearly used social media in an attempt to meddle with the election
- The stories are often vague and contradictory, and sometimes downright weird
- This is a moving target; there's more news every day
- Did they really [use Pokémon Go](#) to fan racial unrest?
- Did they really tell their operatives to [watch "House of Cards"](#) to understand American politics?
- (Mueller claims that some Russian operatives visited the US)

Tactics

- Use of Facebook, Twitter, and Google
 - Others?
- Bots, to post things, drive up follower counts, repost
 - The exact number is subject to dispute
- Ads
- Bloggers; fake news
- Perhaps offering the Trump campaign damaging information about Clinton

Distraction?

- Create enough fake news and/or dubious news and/or targeted news to drown out the real stuff
- Goal: leave people uncertain where to go for reliable information



Zeynep Tufekci ✓

@zeynep

It's no longer age of information scarcity. Censorship works by info glut, distraction, confusion and stealing political focus & attention.

2:03 PM · Oct 14, 2016

Russian Goals

- Defeat Clinton
 - Some stories claim that Putin hates her for her actions while Secretary of State
 - Mueller indictment dates the earliest activities to 2014
- Weaken the US
 - Create or fan dissension
 - Backed: Black Lives Matter; far right groups; [Sanders; Stein](#)
 - Or so some stories claim
 - Create doubts about the legitimacy of the election
- Weaken US allies, especially NATO

Targeting

- Stealing voter rolls from state election sites?
- Cambridge Analytica (per [vox.com](https://www.vox.com))
- Internet Research Agency, in St. Petersburg?
 - Indicted by Mueller's grand jury!
- Machine learning [from Twitter feeds](#)?
- Geographical targeting, e.g., swing states

Are They Going Elsewhere?

- Some reports allege links to the Brexit campaign
- Fake news in France, just before the election
- Germany?
- Elsewhere?

Cambridge Analytica



Advertisers Have Gotten Sophisticated

- There's no point to showing ads to people who are unlikely to buy what you're selling
- Over the decades, advertisers have gotten better and better at identifying the proper audiences
- (You can often infer the audience for TV shows by the ads —but remember how smart your cable box is!)

Advertisers and Data

- Advertisers realized long ago that the more data they had about the audience for a particular publication or show, the better they could select the right ads
- Nielsen ratings—the public numbers are about how many people watch a show; the private (and expensive) numbers include breakdowns by age, gender, probably more
- And the Internet provided *lots* more data

The Google Revolution

- Google was the first Internet advertising company that was successfully able to do precise targeting
- That's really how they make their money
- They started with “keywords”—selling ads based on particular search terms
- And then they learned how to profile users, based on the totality of their online activity
- Facebook, a few years younger, followed suit

Microtargeting and Politics

- All of this applies even more to political ads
- There's no point to showing, say, pro-Trump ads on Colbert; for the last five years, he's built up his audience by being vehemently and outspokenly anti-Trump
- The converse, of course, applies to Tucker Carlson and other Fox News commentators
- The same techniques used to target commercial ads can be used to target political ads, *especially* to reach possible "switch" voters

Cambridge Analytica

- Simulmatics identified 480 distinct demographic groups
- Cambridge Analytica—a company owned by a prominent Republican supporter and headed by Trump adviser Steve Bannon—took this a step further: they looked at detailed Facebook data to fine-tune ads
- This data was used to target ads
- What if Kennedy had shown civil rights ads *only* to African-Americans or to whites who were likely to be sympathetic?

How it Worked

- Cambridge Analytica paid many users to take a personality test via a Facebook app
- The app also had data to the Facebook friends of the test-takers—tens of millions of people in total
- Use of friends' data was not supposed to be used for advertising—but it was
 - Did Zuckerberg know? The DC attorney-general [thinks so](#)
- Cambridge Analytica worked on the Ted Cruz, Trump, and perhaps Brexit campaigns
- But there is debate about how effective their efforts were

Amplification



Limited Direct Actions

- Russia ran some social media bots, especially on Twitter and Facebook
- They bought some ads
- Assorted people knowingly created fake stories as clickbait
- They retweeted/reposted stuff

But it seemed to have disproportionately large impact!

The Ads

- Yes, there were some direct ad purchases
- The Russians also paid to have some Facebook posts promoted
- But: they were reposted *a lot*. Why?

Facebook is Great at Targeting

“With 210 million U.S. users logging in monthly, Facebook offers candidates and their allies the ability to zero in on potential voters who are likely to embrace their messages and make them go viral — identifying them by geography, gender, interests and their behavior across the Internet, including their ‘likes’ for music, food and travel. The company owes its rich trove of data to its users, who turn over details about their personal lives every time they engage with the platform.”

(https://www.washingtonpost.com/politics/trump-campaigns-embrace-of-facebook-shows-companys-growing-reach-in-elections/2017/10/08/e5e5f156-a93b-11e7-b3aa-c0e2e1d41e38_story.html)

The Russians and Facebook

- The Russians used Facebook's targeting to reach people who would be likely to repost their stories
- “The news that Russians used Facebook to try to influence voters showed that people with ‘no interest in adhering to facts or the truth are able to message to select pockets of the population to elicit an emotional response, and no one knows that it is happening,’ said Keegan Goudiss, who served as director of digital advertising for Sen. Bernie Sanders’s presidential campaign, which relied heavily on Facebook.”

Twitter

- Twitter's targeting probably isn't as precise, but it can be easier for bots to make something go viral
- Create a hashtag; have other bots retweet it
 - Hope your followers do, too
- It doesn't take that many retweets, on an absolute basis, to make your hashtag show up as "trending"
- At that point, lots of other people will see it—and some will retweet

Fake News

- A variety of people around the world created fake “click bait” stories
- "FBI Agent Suspected In Hillary Email Leaks Found Dead In Apparent Murder-Suicide"
- “Hillary’s Illegal Email Just Killed Its First American Spy”
- “Clinton Foundation ship caught smuggling refugees!”
- Why?

Some Stories on Fake News Sites

- <https://www.npr.org/sections/alltechconsidered/2016/11/23/503146770/npr-finds-the-head-of-a-covert-fake-news-operation-in-the-suburbs>
- <https://www.wired.com/2017/02/veles-macedonia-fake-news/>
- <http://www.politifact.com/punditfact/article/2017/may/31/If-youre-fooled-by-fake-news-this-man-probably-wro/>
- <https://www.theguardian.com/technology/2016/aug/24/facebook-clickbait-political-news-sites-us-election-trump>

Profit? Ideology?

- Some fake news purveyors were liberals trying to troll the right
 - “The website does make clear its true purpose, saying it ‘is a satirical publication that uses the imagination of liberals to expose the extreme bigotry and hate and subsequent blind gullibility that festers in right-wing nutjobs.’” (Politifact)
- Others wanted money: “Coler fits into a pattern of other faux news sites that make good money, especially by targeting Trump supporters.” (NPR)
- But why did it work?

“We Have Met the Enemy and He is Us”

“A New York Times examination of hundreds of those posts shows that one of the most powerful weapons that Russian agents used to reshape American politics was the anger, passion and misinformation that real Americans were broadcasting across social media platforms.”

...

“‘This is cultural hacking,’ said Jonathan Albright, research director at Columbia University’s Tow Center for Digital Journalism. ‘They are using systems that were already set up by these platforms to increase engagement. They’re feeding outrage — and it’s easy to do, because outrage and emotion is how people share.’”

(New York Times)

Social Networks Are Amplifiers

- The Russians did not introduce new concepts into American political discourse
- Instead, they used American technology and American companies to exacerbate existing tensions
- “The Heart of Texas group had more success with a Houston rally to “Stop the Islamization of Texas,’ which provoked an angry confrontation in May 2016. United Muslims of America, another Russian creation, called its own rally to ‘Save Islamic Knowledge’ for the same time and place, outside the Islamic Da’wah Center.” (NYT)

Why?

- Social networks—YouTube, Facebook, Twitter, etc.—value “engagement”: keeping people on the site
- Why? Because the longer people are on these sites, the more ads they see (and the more money these sites make)
- More extreme content seems to attract more clicks, and hence more engagement
- Result: suggestions pointing to even more outrageous content

Propaganda 2.0

- The Russian bots took advantage of the common features of the modern Internet
 - Speed of communication of communication
 - Disintermediation
 - Big data
- Their messages spread rapidly, without filtering by gatekeepers, and reached a susceptible audience

And What Do We Do About It?

Two Approaches

- Change one or more of these attributes
 - Speed of communication of these communications
 - Disintermediation
 - Big data
- Or try to reduce susceptibility

Is either approach feasible?

What We Can't Do

- We probably cannot slow down the spread of information
- There are too many commercial reasons to improve transmission speeds
- We can't make big data go away
 - This is a technique that's been tried since 1960
 - Again, there is a powerful commercial push behind it
 - (And you can't put toothpaste back into the tube...)

Solving Disintermediation?

- There once were intermediaries in mass communication systems: editors. Can we bring them back?
- Can human editors cope with the volume of news?
- (Can sites other than Facebook and Google afford enough humans?)
- Will algorithmic filtering work?
 - What about adversarial machine learning?
- Facebook et al. have tried to build suitable algorithms
 - But—they profit from viral content

Social Media Sites' Response

- Of late, the major social media sites have started filtering things
- Prominent spreaders of disinformation, e.g., about the Covid vaccine or the 2020 election results, have been banned from the major platforms
- But AI-based filtering is not working very well
 - Should they hire more people?

Susceptibility

- Americans' susceptibility to this sort of propaganda is equal parts political division and and lack of awareness
- A Russian attempt to influence the French election failed:
 - The Macron campaign planted fake emails, which were included in the Russian "leaks"
 - The Russians were careless and left metadata traces
 - The media and the public were aware of the possibility; they weren't in denial (and there's no Fox News equivalent in France)

American Political Division

- Solving that is a question for the sociologists and political scientists
- The Russian bots keep trying to stir up trouble, e.g., around the Parkland shootings
- Again, though—the underlying division is homegrown
- *But our technology is making it worse*

Scaring Them Away

- Can we deter future attacks?
- Is there some form of retaliation or potential retaliation that will induce the Russians to stop?
- Or will such retaliation spiral out of control?

We've Created New
Technology Without
Understanding its Effects,
and We Can't Control It

Questions?



Scarlet tanager, May 8, 2019, Riverside Park