Epsilon Theory

Notes From the Field
This Is Why We Can't Have Nice Things

May 23, 2018

Here's the most powerful animal on our farm – a deer tick, well embedded, gorging itself on human blood.

Of course, it's not the tick itself that is so powerful, but the Lyme disease it can transmit, caused by a spirochete bacterium named *Borellia Burgdorferi*, pictured below. As you probably know, Lyme is a terrible disease, difficult to diagnose and difficult to treat once established. Once transferred via tick saliva, the wormlike *Burgdorferi* bacteria quickly spread throughout the human host, particularly into joints, the heart and the brain. From there, the bacteria cause symptoms including intense arthritic pain, palsy and paralysis, loss of memory and extreme fatigue. Our immune systems typically fail to create the necessary antibodies to fight the infection, due to both the antibody-suppressing qualities of tick saliva and the antibody-hiding qualities of *Burgdorferi*. And in a process still not entirely clear but suspected to be connected to an autoimmune failure spurred by *Burgdorferi*, these crippling symptoms can persist for years, even after all of the bacteria have been killed through aggressive therapy. This is a potent parasite, and if you've lived for any length of time in Connecticut, you surely know at least one family that has been hit hard by a tick-borne disease.

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But Lyme disease isn't the reason that the deer tick is the most powerful animal on our farm.

No, it's not Lyme disease. It's *Lyme disease!*.

Huh?

Lyme disease is a physiological ailment caused by bacteria and injected into your body by ticks.

***Lyme disease!* is a mental ailment caused by words and injected into your mind by humans.**

Lyme disease! is the IDEA of Lyme disease. It's the mental construction of a world where Lyme disease and the bloodthirsty deer ticks and the grotesque *Burgdorferi* bacteria are EVERYWHERE, an omnipresent threat to you and your children. *Lyme disease!* is an infectious **meme**, in the true and powerful meaning of the word, not the ha-ha cartoonized meaning that we see every day on social media. Memes are self-sustaining ideas that live in the human brain. They are as alive as any bacteria or virus, and they infect every aspect of our social lives.

What do I mean? I mean that families infected with the meme of *Lyme disease!* don't allow their children to hike or play in our woods. I mean that the meme-infected next door neighbors have spent hundreds of thousands of dollars to wall off – literally wall off, including river barriers – their 20+ acres from all animal life that can't fly. I mean that we have been sued – literally sued – by meme-infected parents who thought their child might have "caught rabies" (not Lyme, but close enough) from petting our dog some hours after the dog found a dead raccoon. No, I'm not making this up. And just wait. I can *promise* you that I'll get "well, actually" emails from meme-infected readers of this note.

What we have in the wilds of Fairfield County, Connecticut (and I suspect in every exurb in the country), is a large population of wealthy people who for a variety of reasons want to live closer to nature, but are scared to death of *nature!* ... the memes that infect our brains about the risky parts of nature, memes like *Lyme disease!* or *rabies!* or *coyotes!*. It's not that these aren't actual dangers. Lyme disease is a real thing and a real risk. So is rabies. So are coyotes. But our social lives aren't governed by the actual risks of the real-life things. They're governed by the memes. They're governed by the metagames.

I wrote about this from the perspective of the real-life thing in *Too Clever By Half*, where I described why the coyotes in our woods always lose the metagame. They win every direct interaction with us tame humans because they're smarter and braver than we are. But they lose in the larger metagame because the townfolk have access to armed animal control officers who are required – begrudgingly and remorsefully – to kill the real-life coyotes when the *coyote!* meme infects enough civilians. The lesson for all coyotes, four-legged and two-legged alike, is pretty simple. Don't trigger the townfolk. Yes, you're smarter and braver than they are. You can win the immediate game. But you will always lose the metagame if you're too visible in your "winning". Always.

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There's a larger perspective here, too, and a larger lesson. It's the perspective of all of us. The meme-infected. Like me. Like you.

In my eight years on the farm, where I spend a lot of time clearing brush and cavorting around tick-rich environments, I've been treated for Lyme disease twice. Both times I had an attached tick, so I pulled it off and went to the doctor. Both times the doctor didn't even bother testing me for Lyme, but just started me on antibiotics, because you can knock Lyme out if you treat it early enough. Maybe I had Lyme and maybe I didn't. We'll never know.

In the immortal words of Remo Gaggi when he and his fellow mob bosses of *Casino* decided to whack a loyal lieutenant who had the misfortune to have a slight opportunity to rat them out, "Why take a chance?"

Look, I get it. There is zero upside for the doctor to make a measured calculation of the actual risk of Lyme disease. There's zero upside because the doctor knows that as bad and prevalent as Lyme disease might be, *Lyme disease!* is even worse and more prevalent. THAT'S the disease that the doctor was treating when she prescribed the antibiotics – *Lyme disease!*, not Lyme disease. Because she knew that even if the correct and rational treatment for Lyme disease was to do nothing or carry out some more tests, the absolutely correct and rational treatment for *Lyme disease!* was an immediate course of broad-spectrum antibiotics. It's a no-brainer. There's no doctor in the world who can stay in business for long if she doesn't recognize the memes that infect her patients, who doesn't nod understandingly and overprescribe when a mother wrings her hands over her child's "exposure" to this dread *disease!* or that dread *disease!*, regardless of the disease truth. This is the metagame of modern health care.

Ditto with financial advisors.

You're not going to stay in business for long if you don't recognize the memes that infect your clients, memes like *the fundamentals are sound!* and *we're cautiously optimistic!* and *stocks for the long haul!* and *value!* and *bet on America!*, all of which are most effectively treated with a profound over-allocation to U.S. equities under any and all circumstances. It's not that these aren't true and real things. They are absolutely true and real, just like Lyme disease is absolutely a true and real thing. But the true and real thing isn't what drives our behavior. It's the *meme!* that does that. There is zero upside for a financial advisor to make a measured calculation of the actual portfolio risk of a client's under-exposure to U.S. large-cap stocks, because the actual portfolio risk isn't the driving *risk!* that the client is infected with. So all financial advisors overprescribe U.S. large-cap stocks for their clients. We all know it's true. We don't like it, just like no doctor likes overprescribing antibiotics, but we do it anyway.

As Hyman Roth said to Michael Corleone, this is the business we have chosen. This is the metagame of modern investment management.

But like I say, it's bigger than that.

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Five years ago, I started *Epsilon Theory* to talk about capital markets, and it will always be a core part of what makes me tick and what I choose to write about. But as important as it is to recognize and call out the memes that infect our markets, it's even more important to recognize and call out the memes that infect our politics. And the human ticks who spread them. That effort starts today.

A preliminary observation before we get to the stuff that will annoy a lot of readers … everyone I've ever known, including me, comes at the question of memes and their influence on our decision-making from a very simple starting point – yes, they're effective on other people, but not on me. I am smart enough and independent enough to be effectively immune from a meme infection.

No, you're not.

If you get nothing else from *Epsilon Theory*, get this: we are ALL hard-wired – literally hard-wired through millions of years of neurological evolution – to respond positively to effective meme introduction. We are ALL programmed – literally programmed through tens of thousands of years of cultural evolution – to respond positively to effective meme introduction. It's no exaggeration to say that our biological and cultural symbiosis with memes defines the modern human species. This is a feature, not a bug.

Eusocial animals (the "pure" form of what it means to be a social animal) swim in an ocean of constant intra-species communications. It's why these species – the ant, the termite, the bee, and the human – are the most successful multicellular animal species on the planet. Eusocial animals have the ability to store, retrieve and broadcast information (yes, eusocial insects communally "remember" incredibly complex informational structures) in a way that non-eusocial animals simply can't, and it allows the eusocial animal not only to survive its environment, but to *master* its environment. Any environment. Humans are essentially giant termites with opposable thumbs and fire, and that combination is particularly unstoppable. But it's the termite-ness … it's the swimming in an ocean of constant intra-species communication … that's the most important of these qualities.

The downside, of course, is that we can no more resist the language of *Hero!* and *Wizard!* and *Enemy!* than an ant can resist the pheromones of its queen. These are the Old Stories and the New Stories alike. Memes are our greatest strength as a species. And our greatest weakness as individuals.

Memes are the stuff that Narratives are made of.

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Fortunately, the human animal is a self-aware animal. For the most part. Kinda sorta. At least we have the ability to perceive our infection. Through a glass darkly, as the Old Stories would put it.

Self-awareness doesn't mean some magical immunity to being influenced and played by the other players. On the contrary, if you think that you are immune to all this, well that's prima facie evidence that you are not self-aware at all. That's prima facie evidence that you are, in fact, the sucker in this big poker game of citizenship. No, self-awareness means a recognition that you ARE being influenced and played by the other players, so that you can use that knowledge of HOW you are being influenced and played to maintain YOUR personal liberty of mind and play YOUR best game.

If you've been playing poker for half an hour and you don't know who the sucker is … it's you.

We can't change our nature as meme-susceptible human animals, but we can absolutely become *better* human animals, both instrumentally as game players and ultimately as citizens. We can absolutely NOT be suckers. We can absolutely NOT lose our liberty of mind – which is the only liberty that really matters – to the incessant meme-generation of **the Nudging State and the Nudging Oligarchy**.

So how do we avoid being the sucker within this largely invisible poker game of memes and narratives that we are immersed in from birth, a poker game that we are biologically and culturally evolved to play rather poorly?

First and most importantly, we can simply recognize that there is a logic and a process to meme introduction and contagion in the human animal. Here in *Epsilon Theory* I like to focus on one powerful contagion vector – **the Common Knowledge Game** – but there are many others. Like all of the invisible forces that drive our lives, once you start looking for embedded memes and the logic that drives them, you will see them EVERYWHERE.

Second, we can use the new tools of AI and Natural Language Processing (NLP) to *visualize* the meme introduction and contagion process. This is what I've called **the Narrative Machine**, and it's as useful for understanding the behavioral drivers of politics as it is for understanding **the behavioral drivers of markets.** Why is visualization so important? Because it taps directly into the way our brains are hard-wired. Seeing is, in fact, believing, and by showing you visual evidence of political meme introduction and contagion, you will be far more likely to accept the worth of my broader argument. It's why data visualization is such an important topic, and it's why Ed Tufte is a personal hero of mine. ["**Optical Illusion / Optical Truth**"]

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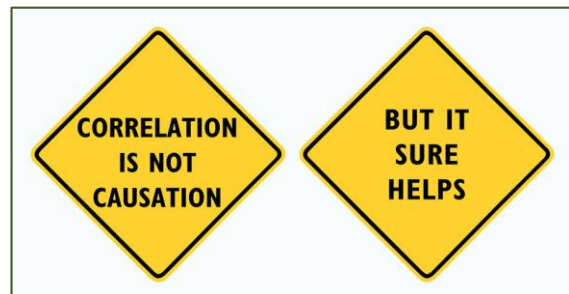
More generally, NLP can help visualize what I described as the "cartoonification" of political candidates and political issues. From "**The Icarus Moment**":

> Cartoons aren't just created to mobilize positive sentiment and supportive social behaviors (although that's pretty much all we see in capital markets, because it's a positive-sum game, not zero-sum like politics). **The negative cartoonification of Hillary Clinton was both the most vicious and the most effective gambit in the last 100 years of American politics.** To be sure, The Clintons™ brought soooo much of this on themselves. If there's ever been **a political candidate more ripe to be transformed into a negative cartoon than Hillary Clinton**, I am unaware of who that might be. But where Donald Trump *embraces and actively creates* his obvious cartoonishness, Hillary Clinton had her cartoon *imposed on her unwillingly*, to disastrous result. **Today's key to political and economic success is controlling your own cartoon.** Yes, this is why Trump won.

So what does the Narrative Machine show us about meme construction and contagion in the last U.S. presidential election campaign?

Here's an NLP analysis of 124,000 articles on Hillary Clinton published in non-paywalled top-tier U.S. media over the year prior to the presidential election — where linguistic similarities create clusters of articles with similar meaning, essentially a linguistic "gravity model" (for methodology background on all this, see **"The Narrative Machine"**).
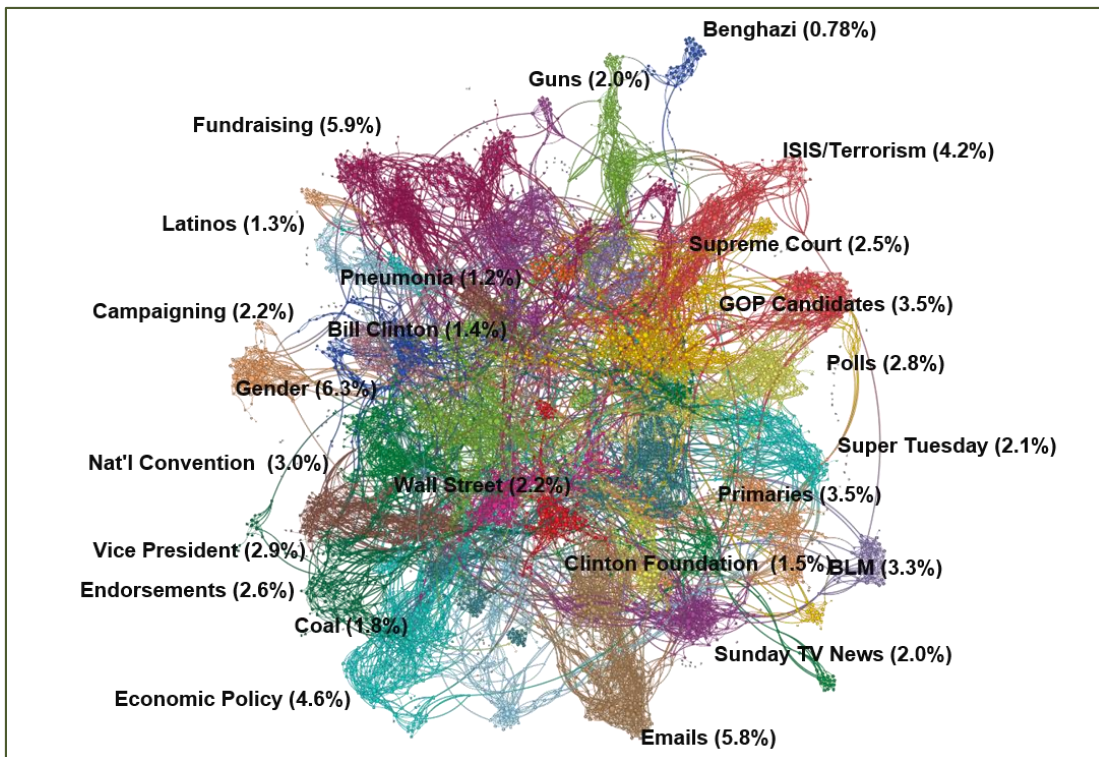
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It's a dense narrative map because of the quantity of articles, but we can simplify the analysis by re-coloring the clusters by sentiment, and then isolating the negative attack memes.

Here's the sentiment map. 20% of the articles are negative, including lots of negative articles in non-attack memes like *Primaries!* and *Supreme Court!*, 45% are neutral, and 34% are positive. Hold that thought.
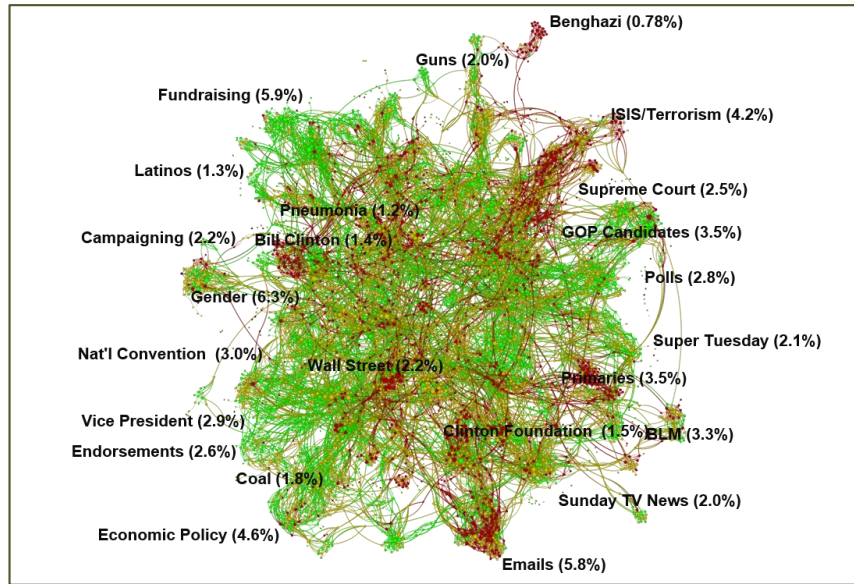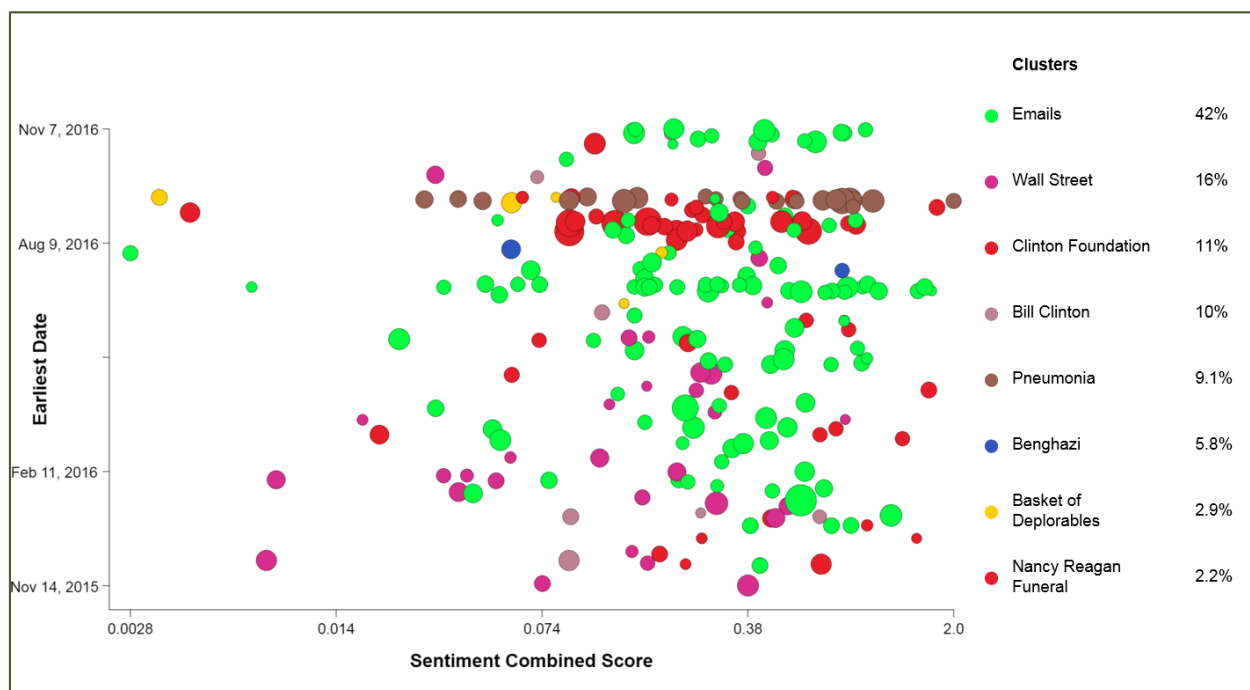

And here's the re-spun narrative map after isolating the negative attack memes:
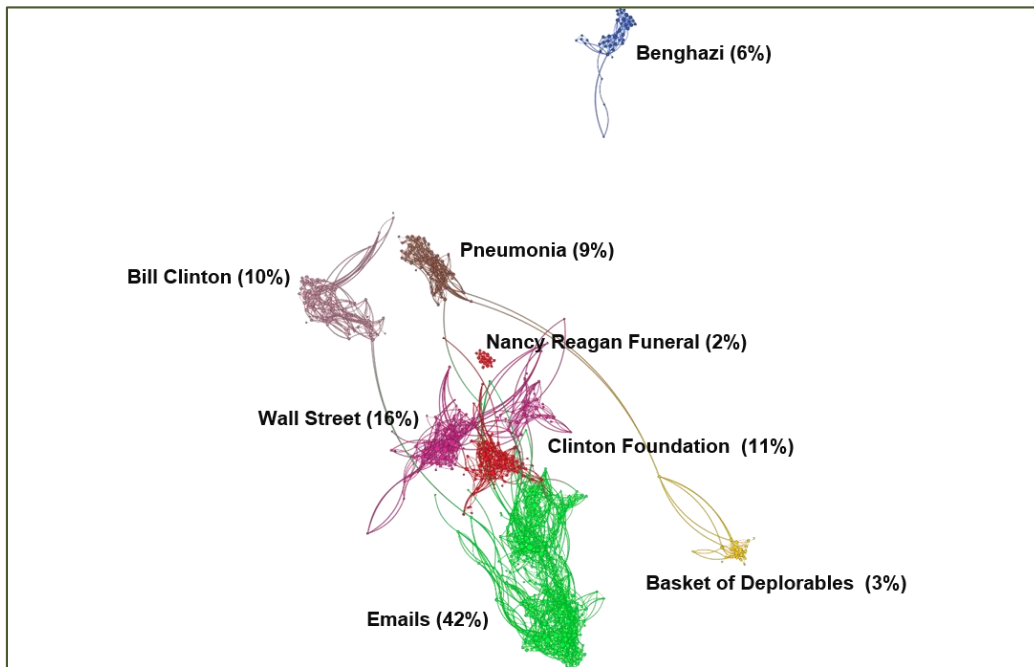
Beyond the frequency of articles associated with this or that meme (*Emails!* clearly dominating on that dimension, with 42% of all negative meme articles published), there are three critical dimensions in an interpretation of a narrative network: geometry, time dynamics, and affect. The map above gives us our geometry, and I've found a scatterplot (below) to be the best visual representation of time dynamics and affect. Between the two graphs a fascinating meme contagion pattern emerges.

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Clusters

Emails		42%
Wall Street		16%
Clinton Foundation		11%
Bill Clinton		10%
Pneumonia		9.1%
Benghazi		5.8%
Basket of Deplorables		2.9%
Nancy Reagan Funeral		2.2%

First, geometry. There's no real information in the north/east/south/west orientation of a narrative map, but there is significant information in distance, center/periphery orientation, and inter-cluster links, all of which can be understood with a simple gravity metaphor. The greater the distance between meme clusters, the less similarity in vocabulary and grammar employed in the individual articles that comprise the clusters (less gravitational attraction between the clusters). The more central the meme cluster to the overall network, the more coherence it provides to the overall narrative (a gravitational pull exerted in all directions). The more inter-cluster links (the long strands that connect one cluster to another), the more articles that explicitly have one foot in each camp, visualizing the gravitational tethers.

What we have in the Hillary meme network is a clear outlier in the *Benghazi!* cluster, as well as a clear super-cluster comprised of *Wall Street!*, *Clinton Foundation!* and *Emails!*, with *Wall Street!* and *Clinton Foundation!* being more central to the overall Hillary cartoonification, despite the far greater frequency of *Emails!* articles. The way to think about the peripheral nature of *Benghazi!* and *Emails!*, I think, is that these memes didn't "take" in the same immediate and easy way that *Wall Street!* and *Clinton Foundation!* "took". To use the deer tick metaphor, whatever ticks were trying to inject the *Benghazi!* meme never really got fully embedded in the body politic, while the *Wall Street!* and *Clinton Foundation!* ticks gorged easily to their little tick-hearts' content. What's really interesting, though, is the *Emails!* meme. **Whatever the *Emails!* delivery ticks lacked in embeddedness, they more than made up for it in effort.**

That's my takeaway from the scatterplot representation of time dynamics and affect, where the green dots (sub-clusters of *Emails!* articles) are high in affect (the x-axis, representing the strength of "emotion" in article word choice, mostly negative, but some positive, too) and almost constant in duration (the y-axis, representing time). That second phenomenon – the degree to which there was an almost constant drumbeat of *Emails!* articles over the course of the campaign – is particularly rare and unusual.

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Here's what a typical meme infection looks like, as shown in a histogram for *Clinton Foundation!*. The meme percolates in the background for a while, explodes in an outbreak of virulence and Sunday talk show segments, and then dies back down again just as quickly.
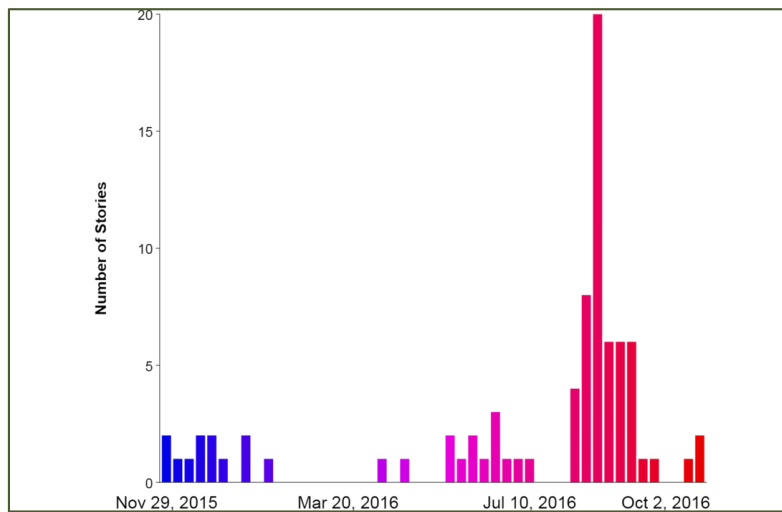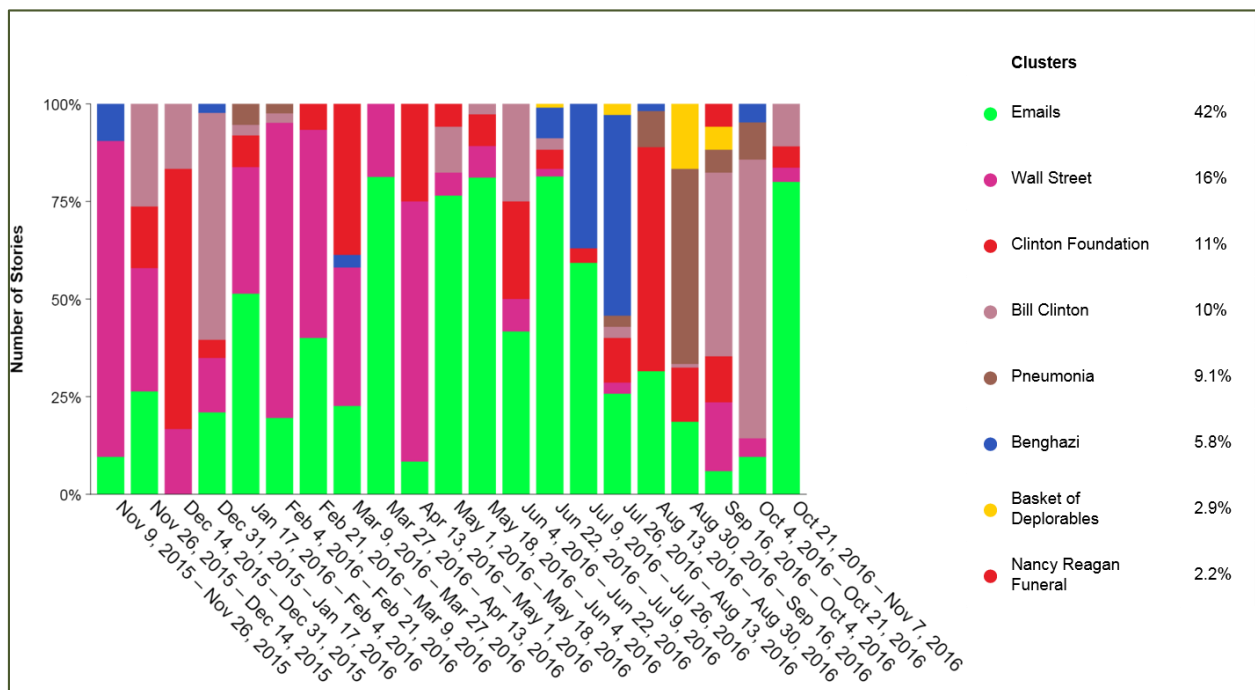
Emails!, on the other hand, had multiple outbreaks and never died down. Sure, it got crowded out by other memes here and there, as the sum-to-100% histogram above shows, but I can't tell you how unusual it is that a meme like *Emails!* persisted in such a virulent form for an entire year.

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In the overall narrative network, not just the negative meme creation stuff, but the entire universe of media coverage, 6% of EVERYTHING written about Hillary Clinton for a YEAR was about *Emails!*.

This is nuts. It's not an accident.

And please, I'm begging you, don't send me a "well, actually" note yelling at me about how Hillary Clinton's handling of her email servers was a ridiculous, mendacious and probably illegal thing, that it was, in fact, a big deal.

I AGREE.

The Emails issue was a real and true thing, just like Lyme Disease is a real and true thing.

But you are the sucker at the poker table if you don't recognize the incommensurability between the real and true Emails issue and the *Emails!* meme, if you don't recognize how YOUR political behavior and YOUR liberty of mind was impacted by *Emails!* in a way that Emails could never achieve.

Mine certainly was. I was so righteously aggrieved by *Emails!*, thinking all along it was Emails. *Emails!* angered me for months. It made a difference to me. And then I did this analysis and saw how the meme was constructed and promoted. I saw how I had been played. If I knew then what I know now, would it have made a difference in my NeverTrump + NeverHillary position? No. But I'm not going to let it happen again. I'm going to do everything I can to protect my liberty of mind.

And in the spirit of in-for-a-penny-in-for-a-pound, here's another sure-fire aggravating observation on the meme construction process around the most recent U.S. presidential election, this time from the Trump narrative map.
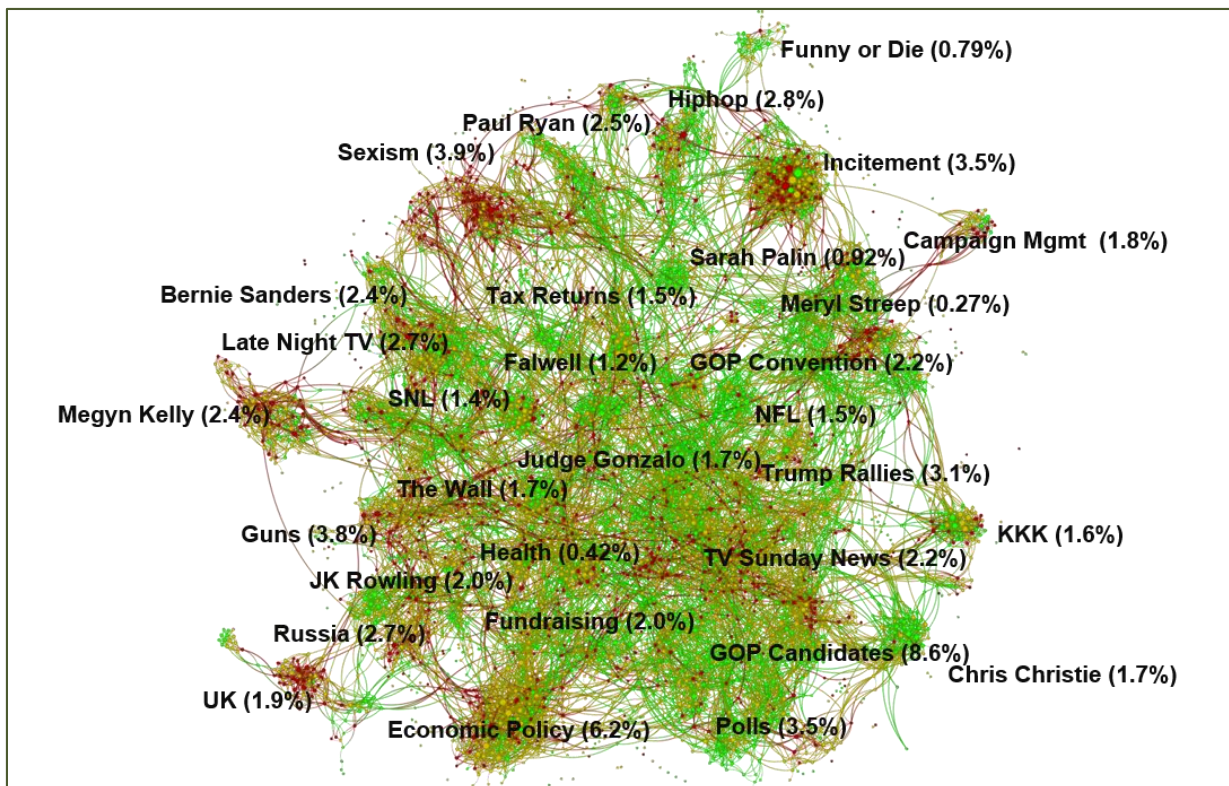
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Above are all the different meme clusters associated with Trump for the year prior to the election, all from top-tier U.S. media, colored by sentiment. Lots of incendiary memes in there, right? But here's the thing. First, the overall narrative network is comprised of 167,000 articles, about 35% more coverage than Clinton received. Second, of that coverage, only 15% of the articles are negative, with 50% neutral and 34% positive. Third, of the negative memes, none had a persistence pattern like *Emails!*. They all spiked and faded like *Clinton Foundation!*.

Trump got significantly more coverage than Clinton in major media outlets.

Trump got significantly more positive coverage than Clinton in major media outlets.

Trump suffered from no infectious meme like Clinton suffered from *Emails!* in major media outlets.

I'm not saying whether all this is good or bad. I'm just saying that it IS. And what it isn't.

This isn't a Russia thing.

This isn't a Facebook thing.

This is a mainstream media thing. A mainstream media thing comprised of people who, for the most part, would rather rip out one of their own fingernails with red-hot pincers than help Trump, but who, driven by the systemic pressures of their business and its utter reliance on **Fiat News**, did just that.

So what do we do about this?

Well … nothing. Or at least nothing to "fix" mainstream media directly. I say that because I don't think it CAN be fixed, just like **I don't think mainstream political parties CAN be fixed**. They can't be fixed because both of these social institutions – media and political parties – are not broken from an internal perspective of institutional profits and personal agency. On the contrary, they're thriving.

Media and political parties are institutionalized ticks, and the tick business has never been better.

Look again at that Trump narrative map. Look at all the obvious negative attack memes – SNL, Late Night TV, Meryl Streep, JK Rowling, KKK, Megyn Kelly, Russia, Funny or Die, Judge Gonzalo – they're not red! I mean, there's some red in there, particularly for Megyn Kelly because it linked into the highly negative (and politically effective) Sexism meme, but for the most part the sentiment of the articles themselves is neutral to positive, even though they're part of an obviously negative meme. How can this be? Sure, Fox and its ilk are going to be neutral to positive on all this, but they're a small fraction of the universe here. Why is the "Failing New York Times" using neutral language to talk about Trump and the Ku Klux Klan? Why would they use language like "Trump's 'very fine people' remark was taken by many as an endorsement of the KKK and other white supremacist groups"? There's nothing inherently negative in those words. Why aren't they hitting Trump harder?

Because metagame. Because the long-term evolutionary stable strategy for a tick species is not to maximize blood-sucking and egg-laying, but to balance resource gathering and reproductive success against the minimal requirements to keep the host species alive.

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There's that word. Balance. Like in "balanced" media coverage that of course is not balanced at all, but **observes the forms** of the *free and fair press!* meme that thoroughly infects all of us, not least the media participants themselves. Like in the balance of an equilibrium.

The current state of intense political fragmentation and conflict is a very stable evolutionary equilibrium for all of these professional meme-generation entities. Ratings are up. Subscribers are up. Engagement and participation are up. The host species is showing signs of exhaustion and stress, but nothing potentially fatal. If Trump did not exist, professional meme-generation entities would have to invent him.

So they did.

And once the miracle of Trump does exist, professional meme-generation entities must be careful not to kill him.

So they won't.

Successful ticks have the same secret as successful coyotes – they play the metagame really well – and there is no more effective metagame player than giant corporate media.

They've been manipulating memes for a really long time. It works really well for them.

It just doesn't work very well for us.

We are infested by ticks.

And yes, I understand that this is a horrifying photograph. I've used it because I want everyone to be equally horrified by the degree to which OUR ears are stoppered up by these monsters. Because as revolting as this picture may be, all of those ticks won't kill the dog. They just destroy his hearing and ruin his brain.

Seeing is believing. Once you see the meme introduction and contagion process, you WILL take every step necessary to rid yourself of them. You WILL become more self-aware. You WILL achieve a greater liberty of mind, which is the only effective treatment for a meme infection.

And that's what we can do. That's what *Epsilon Theory* can do. Not try to be a "fact checker", because that's a fool's gig in a world of Fiat News, where everything you hear is in service to this Narrative or that, a self-serving political or economic view served up with some veneer of "fact". No, what we can do is measure what IS, without attaching any affect or opinion as to whether it is RIGHT. What we can do is visualize what has heretofore been HIDDEN, so that we can go beyond the immediate communication game and SEE the metagame.

Because you're smart enough to make up your own damn mind.

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