

ABSTRACT: The related problems of disinformation, misinformation, and radicalization have been popularly misunderstood as technology or fact-checking problems, but this ignores the mechanism of action, which is the reconfiguration of social capital. By recasting these problems as one problem rooted in the reconfiguration of social capital and network topology, we can consider solutions that might maximize public health and favor democracy over fascism, even as the urgent need for stewarding human behavior may introduce ethical questions about what kinds of network configurations are ideal, and who might have the moral authority to oversee their pursuit.

Introduction

This paper is organized into three sections: premises, problems, and possible solutions. The first section, “Premises,” offers several connected observations and hypotheses about how culture and societies function with respect to social capital, information, and belief. The “Problems” section outlines challenges we are currently facing, using social capital as a framework. Lastly, the “Solutions” section offers some potential solutions, given the premises and problems described in the prior two sections.

This analysis intentionally does not address education or specific shared societal goals (comity, civility, compromise). A balanced, non-cultish social topology is a necessary condition for an informed democracy to function. Obviously, we should aim to promote such public goods, but we should not expect to be able to fix a fundamentally social problem only by addressing higher-level layers. Indeed, a balanced, functional social landscape is a prerequisite requirement, and that is what this paper specifically intends to address.

Premises

1. **Culture is a network.** The relationships between individuals and cultural entities are what form culture and shape our experience of it. Relationships may be between people (weak or strong; offline or online) or *parasocial*, such as to celebrities and media outlets. The concept of *social capital* can be used to qualify a relationship between two entities, assigning a *type* of relationship (casual or family; friend or acquaintance; fan or patron); a relationship may be *quantified* by assigning it a *weight* signifying its overall strength or duration. This allows us to describe a society or a culture as, minimally, a network consisting of nodes (people, other entities) and edges (weighted relationships). (Barabasi, Pentland)
2. **Belief is social.** We tend to believe what people around us also believe. Some studies have shown that people tend to be the “average of the five people they are closest to.” (Christakis, Fowler) This can be attributed to the principle of “homophily,” or the idea that “birds of a feather flock together.” People tend to be attracted to people who think similarly to themselves. Likewise, communities of shared belief may repel people who espouse different beliefs. In recent years we have seen a tendency for people to sort themselves geographically, such that people in rural areas may have very different beliefs from people in urban communities. This lack of cross-cutting social connections

tends to make people more reactive and likely to condone political violence. (Mason, Kalmoe)

3. **Belief confers identity; identity confers belief.** Because our individual identity derives in part from our group memberships, we are reluctant to reject our in-group; this is the equivalent of negating our own identity, which can feel almost like death. The social consequences of belief rejection are why it is nearly impossible to convince people of something even in light of overwhelming evidence: no one wants to concede a point especially if it alienates them from their group and negates their identity. No one wants to become one of “them!” (Rauch)
4. **A cult is a kind of pathological network configuration.** Cults need not have a single charismatic leader and devout followers. (Fig. 1) Speaking in terms of networks, a *cult* can be defined as a networked group that pursues its in-group’s interests over those of society as a whole. The degree to which this group is *intranetworked* with social capital will determine the degree to which it is willing to dispense with evidence (flat earthers), disregard the law (mafia), or commit heinous acts (Jonestown, Heaven’s Gate, January 6th). Two criteria for pathological social capital are if a network 1) is highly connected internally but lacks balancing connections to other networks, 2) has a tendency to violate societal norms, resulting in harm. (Adler, Kwon)
5. **Mathematically, cults could be thought of as “black holes” of social gravity.** If there is too much internal social capital in a network, participants may cross an “event horizon” that makes escape difficult or impossible. Though it should be noted that unlike with black holes where matter has no agency, people do, and can in fact escape with proper intervention and will.
6. **Culture (i.e. the network) is upstream of politics.** The Italian political theorist Antonio Gramsci noted that “culture is upstream of politics,” a quote since co-opted by Andrew Breitbart and Steve Bannon. These political technologists understand that they are working at the *network* level on altering culture, while many people are focused on *politics*, which is a losing strategy.
7. **Relationships determine public health outcomes.** Most of the *information* about a society is found in relationships. Speaking mathematically, a graph depicting a meshed network of 50 people will contain 1,225 relationships. When people talk about “individual” rights, they are willfully discounting the many relationships that may be affected by the behavior of individuals. This should serve as a reminder that any effort to promote specific human behaviors must be evaluated through the possible effects on human relationship networks, and whether those changes are positive or negative.
8. **Only certain network configurations can support democracy.** If it is possible to render democracy impossible through manipulation of social capital, then it follows that there is also a range of “healthy” network configurations that can support democracy, and that those, too, can be sought through engineering of social capital. Deciding who has the moral authority to assume that role carries major ethical quandaries, however failure to engage will cede the question to actors like Steve Bannon, Michael Flynn, Charlie Kirk, Elon Musk, Vladimir Putin, et al.

9. **A network of disconnected cults cannot support a functional democracy.** Some minimal level of cross-cutting social connections between networks of interest must be maintained in order to support a functional pluralistic democracy. Too many cultish groups, each unwilling to compromise, produces the kind of “bundled aggrieved factions” that are useful to populist fascist leadership. It is therefore in the interest of populist fascists to promote social atomization and to destroy cross-cutting social ties.
10. **We don’t live in a post-truth era; we live in an age of influence.** It is fashionable to suggest that we live in a post-truth era, or that we are suffering from a kind of “truth-decay.” This is false; rather, we are experiencing a rise in the use of the tools of influence, that is the tools that alter social capital networks, to produce so-called “islands of dissensus.” (DiResta; Hassan) In response, we must reject the idea that objective truth is unknowable and instead re-wire social networks in ways that allow for a baseline level of shared reality. Truth is not a social construct, but belief is.
11. **Pathological social capital configuration is a public health concern.** Not only does pathological social capital contribute to dissensus, it also seems to contribute to addiction and depression. People who are socially isolated tend to be more susceptible to drug use, addiction, and long-term depression. (Hari) Lack of social connection can drive attachment to conspiracy communities, which in turn can drive people away from family and friends, further contributing to addiction and depression. Anti-vax networks can also drive behaviors antagonistic to public health measures.
12. **Disinformation works by altering social capital to produce cultish networks.** Disinformation (information spread with the intent to harm) and misinformation (false information) tend to alter societal network structure by destroying *healthy* social capital, such as relationships between family and old friends and creating *malignant* social capital between people who share false beliefs (UFO conspiracists; anti-vaxxers; QAnon ‘researchers’). These changes may become permanent if care is not taken to restore lost connections, which can be very difficult and non-intuitive. Many people are inclined to “unfriend” and even “disown” friends and family members who have taken on radical beliefs. (Hassan) Disinformation operations are not so much about pushing false information as rewiring social networks in ways that break down society as a whole. It's not about the belief itself, it's about the social and network consequences of harboring and espousing a belief. [will add more citations re: broken social ties resultant from disinfo]
13. **Radicalization is a process of altering social capital.** The process of radicalization (i.e. the harmful kind, vs. someone who is an enthusiast or out-of-the-box thinker) is usually a circular process involving ingestion of information, leading to 1) creation of “unhealthy” social or parasocial relationships, and 2) destruction of “healthy” relationships (such as with positive influences in community or family). Sometimes a “free radical” loner may falsely appear to “self-radicalize,” by developing *parasocial* ties to entities online.
14. **Information produces a system of effects.** Disinformation can have devastating effects on social capital configurations. Claude Shannon, the creator of modern [information theory](#), suggested that *information* is data that reduces uncertainty. However, any given information “payload” ingested by human targets can produce a rippling

cascade of effects within a network. In this sense, a given information payload produces an N-th order phenomenon that can be evaluated by capturing the information required to describe its effects on a population. A film like *Plandemic*, or even a post about it, can result in much more information, in terms of effects on human networks, than the object itself may have contained.

15. **Information doesn't have to be false to be harmful to a network.** Information must be considered in terms of its *effects* on networked human targets — not just whether it is *true*. Therefore, ethical and normative decisions about what constitutes healthy information should not be restricted to considerations about accuracy, but also must include the intended and actual effects on target populations. Propagandists know this all too well. As any 7th-grade gossip can tell you, a well-timed “truth bomb” can have devastating effects on a target population.
16. **Context is more important than payload.** Any information product exists within a context. For example, when someone shares a video by Jordan Peterson without knowing the context in which Peterson primarily exists (generally YouTube videos, as a vector in a network constructed by YouTube's recommendation algorithm), they may not be aware that they could be contributing to a process of radicalization. A sensible reaction might be to suppress or contextualize such content, however this may be seen by many as a kind of “censorship.” Calls to engage with the payload of the product (the ‘ideas’) may additionally produce the kinds of harmful network effects (dividing people into ‘camps’) that we might like to minimize in the first place. Individuals must become more cognizant of the effects of not only the information they share, but of the context in which it sits and the effects which may be produced by directing people into that context.

Problems

1. **Social engineers are targeting society's most vulnerable members.** Young, disaffected males are a frequent target of radicalization efforts, as are people on “depression boards” who may be experiencing a high-degree of self-uncertainty. (Hogg) Targeting people with atrophied ties to others can be an effective way of building up a community of radicalized people who can then be employed for a variety of aligned operations (Charlottesville; financial manipulation; disinformation campaigns).
2. **Societal divisions (urban/rural, race, class) in the United States are too easily exploitable.** Party identification is correlated with population density, probably caused by network effects that break down across the urban/rural interface. (Troy 2012; Florida, Johnson 2012; Troy 2016) One reason the US is especially susceptible to social capital manipulation strategies is because we are a very large country that's mostly empty. The framers attempted to manage this using the best in 18th century philosophy and technology, but urban/rural factionalism remains a key division. (Federalist 10) And because we have sorted ourselves by geography and political identity, the urban/rural divide is more brittle and easily exploitable than ever. (Mason; Putnam) Rural populations are also especially easily captured by corporate media conglomerates. (Nelson)
3. **In recent decades, we have failed to seed and grow cross-cutting social ties.** In the past, through mechanisms such as the draft, the GI Bill, college experiences, and the general mixing that occurred in American society especially after 1941, people of many

different backgrounds came to know each other, and built social ties that made the American social fabric stronger. Similar experiences occurred in Europe. In recent decades, class and cultural preferences have allowed people to become sorted into a cake of brittle strata that seldom interact. (Putnam)

4. **Cultish social configurations are a national security concern.** Research shows that the fewer cross-cutting social connections a network has, the more it is likely to be reactive to external stimuli. (Mason, Kalmoe) This makes the American population more likely to be influenced by psychological operations and so-called “reflexive control” patterns that attempt to elicit a behavioral response from a faction of like-minded people. Protecting the American population against this threat is an urgent need and suggests that such efforts should be funded as a defense priority.
5. **Disinformation has caused the destruction of social ties and has permanently reconfigured and radicalized social topology.** This has rendered our societies more unruly, less resilient, and ungovernable. An analogy can be made to a [forest fire](#). Pouring water on a burnt forest will do nothing to restore it; similarly no amount of ‘truth’ poured onto a society that has been ravaged by disinformation and social dysfunction can restore it. Instead, we must recognize the social nature of the problem and begin to ‘re-grow’ social capital in purposeful and imaginative new ways.

Solutions

1. **We should seek to strategically repair depleted social bonds, and seed new ones.** Some have suggested that the depletion of social capital has rendered “islands of dissensus,” and that since no one entity has the moral authority to fix this (with a super-ordinating goal such as an alien invasion, for example) then we must instead settle for a kind of “mediation” strategy, where flat-earthers somehow learn to get along with trans-rights advocates and anti-vaxxers. (DiResta) A third way is possible, wherein we recognize the nature of the problem. We must (1) halt the destruction of healthy social capital, (2) slow the creation of pathological social capital, (3) build new cross-cutting social connections across known areas of vulnerability, such as rural/urban, race, and wealth gaps.
2. **National service (both military and public) is one possible way to rebuild our social fabric.** People need to build trust relationships with people who are different from themselves. Military service has become something that is done by “other people,” and few today directly know people who serve. Programs such as Americorps offer opportunities for people to serve the country in non-military ways, but they serve a tiny number of people. We could dramatically increase the capacity of such programs to create a popular, compelling alternative for people 18-22 years old as a prelude or interlude in their educational experience. Paying attention specifically to the formation of cross-cutting social ties would be key to the success of such an expansion.
3. **We need emergent solutions that promote formation of healthy social capital.** Society needs emergent solutions that will encourage it to zip itself back together from the edges in. An authoritarian solution that aims to impose formation of social capital is unlikely to work, as no one entity possesses sufficient moral authority to demand such a thing. However, we can try to induce such a phenomenon.
4. **We must incorporate improved understanding of human behavior in all fields.** As we have seen from our struggles to manage the pandemic, human behaviors such as tribalism, skepticism of expertise, and resistance to change have hampered our ability to recover. Medical and economic projections are rendered meaningless in the face of the much more powerful force of human behavior. Human behavior must be given first priority in any system of effects that relies primarily on humans.
5. **We must be stewards of our global collective behavior.** Understanding human behavior at scale is difficult, and assuming responsibility for measuring it or altering it is fraught with ethical challenges; regardless, we must not shrink from the task. (Bak-Coleman) Only by starting to understand the complex interactions between people, technology, and information can we begin to develop or pursue normative ideals of what a “healthy” global social configuration might look like. As scientists in the past have struggled to understand relationships between physical objects (gravity), or within animal communities (swarming behaviors), we are now called to meet the challenge of understanding human behavior, and gain understanding of networked social capital at scale — even as that effort is subject to capture.
6. **We must prioritize the popularization of coherent frameworks for managing human networks.** There is little agreement about what we might do to recover from the

fracturing of consensus. While individual researchers, scholars, and science communicators have their own opinions, the fractured nature of the diagnosis hinders progress towards a solution. We must progress towards a widely accepted framework for recovering from our state of dissensus. This, by itself, represents a human behavioral challenge as there are many competing diagnoses and hypothetical solutions; however if we do not make an effort to overcome this impasse, our societal fabric will likely become permanently and irrevocably torn.

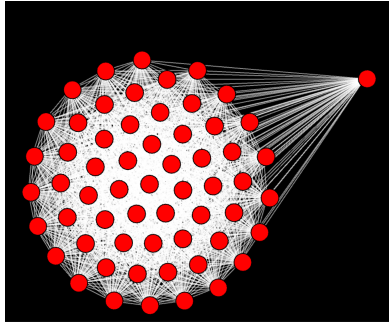


Fig. 1, A Cult with Leader

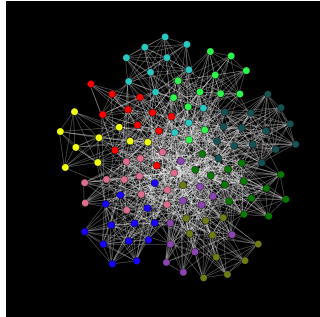


Fig. 2, Network with Cross-cutting Ties

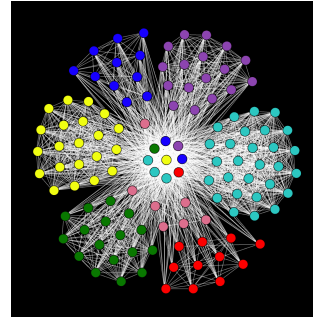


Fig. 3, Network with Depleted Cross-cutting Ties

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