**Chapter 3 Part 4: Engagement with Radical Content**

In Chapter 2, we claimed that social media platforms inadvertently favor and encourage radical content, while discouraging nuanced or calculated content. We suggested many root causes for this problem, such as the invariant structure of posts that causes users to give brief and shallow attention to any given post, the infinite scroll-feed, cost functions that optimize for engagement, etc. Since this claim grounded many of the problems and suggestions for which we argued, we anticipate a counter argument that trivializes our claim that the dissipation of radical content is a legitimate problem.

Some may argue that radical posts make up a small portion of social media posts. They might suggest that perhaps radical posts are "louder", but they are problematic in effect only because they are brought under the spotlight by media outlets or other critics. In this way, perhaps radical posts are only as big as a problem as we make of them, and if we left them alone, they would be contained in a small area of social media platforms from which one can easily distance herself.

Although this account is definitely optimistic and convenient, it is nonetheless not based on truth. First of all, even if the number of radical posts is small compared to moderate posts, they systematically pique users' interest. In an interview mentioned in the beginning of the chapter, Mark Zuckerberg explains:

One of the findings that has been quite interesting is, [...] there’s this question about whether social media in general [...] makes it so that sensationalist content gets the most distribution. [...] And what we found is that generally within whatever rules you set up [for what content is allowed], as content approaches the line of what is allowed, it often gets more distribution.

In other words, no matter how the content regulation rules are set up, users tend towards posts that are on the edge of the regulations. From Zuckerberg's perspective, this is not a property of the system, but a property of human beings. Indeed, there is a vast body of research that supports Zuckerberg's claim that humans are attracted to the sensationalist, edgy and radical content. Even directly concerning news content, studies show that the prioritization of the sensational is nothing that began with Facebook. A study that examines front pages stories of newspapers from eight countries published between the years 1700-2001 shows that the "sensational news" have made the front cover significantly more frequently than others (39). Studies also show that attraction to gossip, scandals, and other types of content that create emotional response has been invariant throughout human history; some even suggest that gossiping about the scandalous is an evolutionary trait that humans have developed to enhance social bonding through dialog (40). Therefore, in the case of human communication in general, and of social media content in specific, we can safely assume that regardless of its size, whatever content sparks emotional response will get more attention. Unfortunately, we cannot avoid the problem of edgy content by simply trivializing its size.

Actually, the radical content must be problematized in another prospect as well. Due to the network-like structure of social media, the issue of the prevalence of radical content is exacerbated even further: First, radical posts get unproportionate engagement due to users' inherent interest in them, and second, their distribution increases non-linearly due to what is called the "network effect". Metcalfe's law, which has been used to explain the network effect in many areas, states that the growth of an item in a network is in the order of the square of the number of nodes in the network that use that item (41). In other words, things grow in networks at a higher rate than outside of networks. The network's effect is that it enhances the growth of its content.

In the case of social media, Metcalfe's law says that whatever gains attention will gain even more attention. This is a crude conceptual ground for why content gaining early recognition more frequently "goes viral" than content that doesn't catch an early wind. If a post successfully beings an initial dissipation, it is more likely to spread similar to a virus. Indeed, the spread of virus itself is object to a network effect as well, since human cells, and computers, are connected through network systems. Metcalfe defines his law in terms of "value" and claims that a network's value is non-linear in its size. However, in the case of radical posts in social media, we claim that the non-linear dissipation is not added value but added stress to the system. Therefore, the social media platform must be sensitive to the network effect and given our claim that the dissipation of radical content hurts the system, alter its algorithm to ameliorate the network effect radical content enjoys.

A following counter argument we anticipate is that social media platforms naturally optimize for most engagement, so it is technically unsound to claim that they have a way of ameliorating the network effect. However, this argument assumes that algorithms can be "generally optimized", whereas in reality, the optimization of an algorithm is optimization for a certain type of result. An optimization algorithm seeks to minimize a given definition of a cost, but it is up to the programmer to determine what the parameter to be reduced is. Then, the cost function attempts to minimize the difference between the expected value of a parameter and the empirical value of that parameter. Perhaps engagement is a convenient parameter to optimize, but as we have shown, it is not necessarily the correct parameter, and it is decisively not a unique parameter.

Furthermore, current social media platforms have been updating and developing their cost functions to mediate some of the very problems we have described. In January 2019, YouTube has released a statement explaining how they have been combatting videos that have sensational titles but low-quality content, known as "clickbait":

You might remember that a few years ago, viewers were getting frustrated with clickbaity videos with misleading titles and descriptions (“You won’t believe what happens next!”). We responded by updating our system to focus on viewer satisfaction instead of views, including measuring likes, dislikes, surveys, and time well spent, all while recommending clickbait videos less often.

Admittedly, given that Youtube's algorithm is proprietary, we do not have access to the exact nature of this change. However, the declaration at least shows an understanding from Youtube's part that simple parameters such as views do not result in the best user experience, and cost functions generally need to incorporate a set of distinct parameters to combat issues of radical content and model the complex criterion of "viewer satisfaction".