Social Media: Deadly Weapon or Useful Tool?

As of 2023, an estimated 72% of Americans use social media (Auxier). The worldwide numbers are much harder to estimate, but one source puts the number at 3.96 billion users overall (Dixon). With nearly half of the world using social media, and less than 10 platforms dominating the space (Sidoti), these companies, nearly all based in the US^[Note 1], have a concerning amount of influence over social interaction worldwide, which is only expanded by the black-box nature of algorithms and extremely ineffective regulations. Regardless of the initial intent of these systems, they are now yet another tool used to empower the upper classes at the expense of the general public, and furthermore have proven detrimental effects on those who use them and society as a whole.

Social media originated as a way to share experiences online. The earliest computer networks, such as ARPANET, were meant primarily for sharing data between users of existing groups. After that came more types of general communication software, such as BBS (Bulletin Board Systems) which could be used as forums, and profile-creation sites like GeoCities, which were differentiated by the fact that users could 'browse' topics to find new people with similar interests Note 2]. SixDegrees and Friendster were the first to adopt the modern social media model, where users would create profiles and make connections with online 'friends' to share posts with. After that, companies more recognizable to modern users such as Facebook and Twitter further polished the model by implementing complex algorithms to automatically construct 'recommended' feeds for users. These algorithms are closed-source Note 3, inaccessible to the public, and designed primarily to keep users engaged (Orlowski), so that the platforms can serve more advertisements to the users. This is primarily how these platforms are funded; usage of the services is typically free to users, sometimes with an optional premium subscription for additional features, and the bulk of revenue comes from users being served targeted ads. Notably, the ads a user sees are almost always 'targeted' ads: companies collect usage data from their services and buy large datasets from other companies, which are combined and used to profile users and serve them ads that will have a higher chance of successfully catching the user's attention. Because of the profit motive, the purpose of such social media networks is no longer to allow people to connect with others as it may have been in the less corporatized early web, but to make money from them by selling their attention and their data. This conflict of interests leads to several systemic issues.

The first broad category of detrimental effects are "personal effects," or effects that affect people individually. Social media, especially during and after the COVID-19 pandemic, is often used as a replacement for in-person connection (Jütte et al.). It is often marketed as such (connected users are often referred to as 'friends', for example), and many people use it because it is a convenient method of keeping in contact with people that are geographically distant. With this move of social interaction from the physical realm to the digital realm come myriad effects. First, studies show that increased social media use increases feelings of isolation and loneliness,

instead of decreasing it (Jütte et al.). The connections made over such social networks are not a good substitute for real connection, and in fact most such online "connections" are superficial at best. Most will never involve face-to-face contact or even audiovisual communication [Note 4], and users always need to be careful to not reveal too much about themselves. If one is not careful enough to guard oneself online, they risk being "doxxed," which is an event where a person's personal information, such as legal name and address, are leaked online, which usually leads to further harassment [Note 5]. In addition, the constant comparison of oneself to others encouraged by these platforms has particularly devastating effects on mental health, especially for teenagers. In 2021, internal studies conducted by Facebook (which is also the parent company of Instagram) were leaked by a whistleblower. The leaked documents showed concrete detrimental effects on mental health, especially for teenage girls, which were suppressed by the company in favor of continuing to seek increased engagement at the cost of human lives [Note 6]. The leaks also included internal concerns over misinformation and other problems on the platform, which were never acted on. All of these problems could be fixed, but it is not profitable to do so.

Another consequence of the profit motive in social media is addiction. Algorithms are primarily designed to maximize user engagement, meaning they are purposefully designed to be addictive. This has proven to be very effective, with estimates of addiction occurrence ranging from 12% to 60% of surveyed social media users (Bhargava et. al.). If these estimates are correct, the number of people addicted to social media is somewhere in the range from 475 million to 2.4 billion. This is a direct result of the fact that more engagement means more ads can be shown to the user, meaning more revenue is gained by the platform's owners, as well as the fact that more engagement means more data about the user, which can be used to improve the effectiveness of targeted advertising as well as directly sold for profit. Such data also allows the company to improve the platform's effectiveness, which creates a positive feedback loop leading to the creation of an extremely addictive platform. Techniques such as erosion of stopping cues (the most well known example being infinite scrolling), intermittent variable rewards (also known as the 'slot machine effect'), and emulated social validation (such as 'likes') are all highly effective at increasing engagement to dangerous levels (Bhargava et. al.) and are found in all platforms constructed under the profit motive. This constant forced engagement contributes to the isolation of modern people and makes it difficult to not use these platforms.

Another category of detrimental effects is "interpersonal effects" or "social effects," which are effects that act on groups of people or society as a whole. Social media enables widespread communication, but that isn't necessarily a good thing. On a platform where anyone with enough money can push "information" (even if it isn't true) to potentially billions of people, it is often difficult to discern what is true. This is an inevitable result of the combination of 3 factors: moderation costs money, allowing the spread of misinformation is useful (both for profit and for manipulative purposes), and companies are rarely held liable for damage they cause. The massive quantities of information dumped onto social media, combined with the fact that algorithms are designed for engagement, rather than truth, means that the rise of social media has coincided with a massive rise in misinformation and conspiracy theories. Misinformation was

found to be a "significant but not dominant" contributor in the 2016 American presidential election: 62% of American adults reported getting news from social media, certain known fake news stories were shared upwards of 30 million times, and over half of people who saw these known fake news stories reported believing them (Hunt et. al.). In addition, "people are much more likely to believe stories that favor their preferred candidate, especially if they have ideologically segregated social media networks" (Hunt et. al.). This is linked to another important effect of social media: it segregates people into "echo chambers," by filtering posts so that they only see posts they already agree with. This has contributed to the modern phenomenon of massively increased partisan divide (Orlowski), which is plainly visible as an increase in radicalization, to the extent that many people now believe cooperation with "the other side" (referring to the other side of the left-right axis of the political spectrum) is impossible. Regardless of intent, social media has proven to be an incredibly effective tool for dividing the public, which is useful for the upper classes as a tactic to divert blame.

The third category of negative effects, "technological effects," are slightly broader in that instead of being directly caused by social media, they are developing alongside and influencing it. The origins of such technological effects are not directly linked to social media, but rather stem from the profit motive and proceed to influence social media. The most well-known of these is the emergence of the "big data" industry: massive-scale harvesting of personal data, which is then sold and used for many purposes including to build predictive behaviour models for advertising, to train AI models, to "track" users across platforms and deanonymize them, and to predict the behaviour of large groups of people in order to influence them in some way. This has many sub-effects, such as spyware, intrusive trackers, and further locking-down of systems to prevent users from knowing how much data is being harvested (which also often prevents self-repair, leading to more profits because the manufacturer can charge more for repairs). Similar forces drive the creation of tools such as generative large language models, colloquially known as "text AI," and generative text-to-image models, colloquially and incorrectly [Note 7] referred to as "AI art," both of which are rather popular currently. Instead of automation being used to free society from menial labor, it is used to cause problems for the already-burdened. Another such effect is commonly known as "enshittification," which the American Dialect Society chose as 2023 Word of the Year (Roberts). Enshittification refers to the decreasing quality of online platforms or, more specifically, to a cycle that has been observed on such platforms. The platforms will start out as an apparently somewhat user-focused tool, with many attractive features that draw people to the platform. Once they have a large enough userbase to become self-sustaining, a phenomenon similar to physical momentum or inertia keeps the platform alive: people cannot leave the platform because of social pressures (often expressed as some form of "all their friends are on it") or because they'd lose important contacts who they cannot contact through any other method (an extension of this applies to artists; many artists build a platform on social media through which they sell commissions, and a platform collapsing deprives them of that vital source of income). Once this phenomenon is in effect, the company starts degrading the platform, making controversial changes to suit their own agenda while the

userbase is effectively trapped. Once it gets bad enough, most of the users will find a way to leave the platform, and the people who own the platform will abandon it and start a new one. This parasitic behaviour is a way to squeeze as much profit as possible out of services, at the expense of millions of users. Twitter, which Elon Musk thinks is spelled X, is a current example of this: a new owner has acquired the company, and is currently monetizing basic features and making the experience far worse for its users both in an attempt to make profit from it and to compensate mentally for his divorce. All of these (besides the divorce) are a direct result of the profit motive and corporate greed overtaking the internet.

It is worth noting that not all of the Internet is subject to these issues. Open-source and community-created projects have long stood in opposition to these forces in many fields. For instance. Linux distributions are open-source community-created operating systems that avoid almost all problems with corporate operating systems such as Windows and MacOS: for example, they generally have little to no telemetry (data reported by a program to its creators for tracking and analysis; the little telemetry that is present is usually optional, disabled by default, and used only for software improvements rather than the typical capitalist uses), are built to be customizable, and are by definition responsive to user desires rather than to those of a corporation. In the social media space, platforms such as "the Fediverse", Matrix, and Neocities are similarly open-source, collaborative, and entirely isolated from the profit motive Note 8. The Fediverse and Matrix are decentralized networks, where anyone can host a server that connects to the rest of the network. They also involve several software products implementing the same standard, which may be freely interchanged. This means that there is no one central company that can be bought out, and no one platform that all data passes through; as such, big data collection isn't present on these platforms. Users are free to switch servers at any time, so if one has bad moderation they can simply migrate, or even host their own server. Matrix is also end-to-end encrypted, meaning that messages can only be read by the sender and recipient, and therefore not even the server owner can spy on messages sent on the platform. Both of these platforms are developed by volunteers and hosted by community members, so there are no central server costs and no need for profit-seeking behaviour. Neocities, though centralized, is funded by donations and an optional premium subscription, instead of by ads, and like the Fediverse has no algorithm and is developed by the community. All three of these platforms are examples of the community-driven internet, as opposed to the corporate-driven internet; they tend to be home to much more open and positive communities, without the influence of capital or AI interference. They are home to a growing counterculture full of hobbyists who want to take back the web for individuals, which is rapidly growing, largely as a result of enshittification of other platforms. Every time Twitter gets worse, the Fediverse gets a new influx of users; when Tumblr implemented transphobic policies and the CEO started harassing and banning transgender users, a large wave of users left Tumblr and joined the Fediverse. Whether the model will be sustainable or able to overtake the corporate internet remains uncertain, but it is clear that this model solves many issues that are present in the more mainstream corporate internet.

Many of these issues arise naturally from the profit motive, but there is another force driving these developments. In the United States (and in several other countries, though the details vary), while the details of specific mechanisms (such as lobbying, bribes, and campaign funding) are beyond the scope of this paper (but have been documented at length in other works), money is power. As such, those who amass extraordinary wealth are both able to influence political events directly, and acquire platforms such as these social media platforms to further their own ends. They are referred to by many names, most commonly "the 1%" (referring to their small numbers, although the actual portion is much smaller than 1 in 100), "the upper class" or "the ruling class", or simply "the rich." Crucially, there are not very many of these people: as such, extreme care must be taken to maintain the structure that gives them power. If there were no such measures taken, the overwhelming advantage in numbers would quickly deprive them of their status as the "ruling class." First, people who are struggling just to survive are much less likely to be able to even get enough education to realize this is happening [Note 9], let alone organize enough to do anything to fix it. Even people with a more stable life are often too busy to spend time thinking about this type of broader societal problem, let alone create solutions. In addition, by radicalizing and dividing the public, cooperation is made apparently impossible, as the majority of the populace is too focused either on those perceived as "the other side" politically, or on those minorities unfortunate enough to be made into scapegoats; this can be done by taking advantage of both traditional media and social media. In addition, since increased exposure to "the other side" [Note 10] or education (even simply a brief intervention) on false polarization decreases such polarization (Blatz), echo chambers help to keep the population divided. Platforms will also outright prevent discussion deemed 'dangerous' or too likely to be effective. Finally, those who do realize what is happening are demoralized by the seeming hopelessness of the situation; fearmongering and shows of power keep these people in check, and those who would flee are fed stories of how much worse it is everywhere else; Russia, China, and North Korea are often used as examples, with other more likely countries rarely mentioned at all. With the public divided, struggling, afraid, and unable to organize, the upper classes can rule without fear of revolution while the rest of society fights an illusionary battle against itself. This is by no means an exhaustive list of the measures taken to cement the existing power structure: it is a very brief overview of some of the methods relevant to social media. While the remaining measures are fascinating and important to understand, the scope of this paper does not allow for a deeper discussion, and further study is left as a highly recommended exercise for the reader [Note 11].

With so much power over the social lives of billions of people, technology corporations such as Facebook and Twitter have a moral responsibility to ensure that power is used in a positive way. However, morals have no influence on capitalism. Due to both the ever-present pressure to be profitable and the utility of such platforms as a tool to suppress the lower classes, this power is exclusively being used as a weapon. Modern social media is not a tool for connection or a communication revolution. It is a tool used to consolidate yet more power into the hands of the already-powerful, to make the already-rich yet more money, and to force the already underprivileged to deal with yet more problems such as mental health challenges and

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partisan division. When people have to focus all their energy on survival, they cannot organize; when people are addicted to social media, they cannot network. Such measures are taken to avoid the risk inherent whenever a small number of people want to rule over many; namely, that if the masses are allowed to organize and collaborate, they can overtake the ruling class through sheer numbers. When viewed through that lens, social media is an incredibly effective tool with massive effects on modern society, nearly all of which are negative. What was once a tool for connection is now a tool for oppression, and without a miracle, it's not going away. Social media cannot be "fixed" because it is working exactly as intended, and it will not be regulated because the regulators are controlled by the same people using it. The only way to fight is to stop letting yourself be used by social media. Delete your accounts, network with your community in real life, and help others to do the same. Only then can true connections be created, and with them comes strength in numbers; the exact thing social media is engineered to prevent.

Author's Notes/Further Reading

Note 1:

In fact, according to the <u>CIA factbook in 2012</u>, over 50% of the internet's servers are hosted in the US! Other sources put the number closer to 80%, but the point is, America has a massive amount of influence on the Internet as a whole. Another effect of this that I couldn't fit into the paper is that the *moderation* of mainstream social media spaces is almost exclusively American (with certain notable exceptions being regional or language-restricted social media like Bilibili, QQ, and Baidu. Regardless, global social media is America-dominated). This means that the internet at large is being held to American moral standards, which effectively suppresses and prevents the spread of other cultures, especially those with differing moral standards. It's a big problem! The cultures that are allowed to spread are often both difficult to find authentic sources on and ridiculed- if you ask people about Japanese culture, for example, they will almost certainly exclusively respond with anime, manga, and maybe vtubers, specific games, or certain festivals (which tend to be learned from anime) if you're lucky, and if they know too much about it they may be labelled as a "weeb" and ostracized from communities.

Note 2:

BBS in its original meaning, as far as I can tell, is no longer in widespread use outside of Taiwan, but that term is still used for modern forums. GeoCities was purchased by Yahoo and discontinued, but an unofficial successor aptly named NeoCities is still around (which I also cover later).

Note 3:

"open-source" and "closed-source" technically have very specific definitions, with "open-source" essentially meaning "free to use, modify, and distribute with zero restrictions," and "closed-source" being anything that does not meet that definition, including "visible-source" projects which permit anyone to view the "source code," but place restrictions on use, modification, or distribution. The full definitions can be read at the Open Source Initiative's website, but are irrelevant to the scope of this paper. This open-source definition is, however, overly strict: for example, a License which freely permits use, modification, and distribution, but with a clause that "The Software shall be used for Good, not Evil," is not considered by the OSI to be an "open source" license. So the definitions are generally only important to purists who have nothing better to do, it's not really relevant here.

Note 4:

Normal people refer to this as "video calls," or "FaceTime" if they're old.

Note 5:

'Further harassment' often includes, but is not limited to: threatening or dangerous mail, leaking online activity to employers/family/etc, 'swatting' (making a fake report against someone to law enforcement to get them to raid the home, which is occasionally fatal for the one being raided

[1] [2]), and stalking. This can happen for a variety of reasons, but common reasons include: being a minority, disagreeing with someone, upsetting someone in a video game, or having a rare username. There are also organizations dedicated to such doxxing efforts: one famous example is "Kiwi Farms" (Wikipedia), which has caused at least 3 suicides and is linked to several horrific events such as mass shootings.

Note 6:

This is the subject of another set of papers I published on my blog in 2021. Unfortunately, I couldn't cite myself, as I'd taken down the blog years ago, the Internet Archive didn't have a backup, and I no longer have the hard drive with the backups on it.

Note 7:

The philosophical debate surrounding the term "AI art" is beyond the scope of this paper, but as art is inherently a form of self-expression which machines, being nonsapient, are incapable of, the term is incorrect.

Note 8:

Here, I use 'the fediverse' generally to refer to a subset of social media using the ActivityPub standard, such as Mastodon, Misskey, and their derivatives. The term can also mean decentralized social media in general, or other networks using the ActivityPub standard such as Lemmy; the same points generally apply, so any of these definitions work for the purposes of this paper. You can learn more about the fediverse on fediverse.info and locate servers with fediverse.to; if you're interested in Matrix or NeoCities, you can learn more about them on their homepages, matrix.org and neocities.org. For the technically-minded, you can learn more about ActivityPub on its website and a non-exhaustive list of software using it on its Wikipedia page. One important thing to note, if you want to join either the Fediverse or Matrix, is that you should always avoid the "main servers" (e.g. mastodon.social and matrix.org). There are many reasons for this, some of which can be read on Matrix's website, but essentially having one big server a: defeats the entire purpose of decentralization and b: leads to increased server strain, which could potentially lead to that server needing monetization or shutting down.

Note 9:

A large part of this is due to the fact that the United States "education system" is pretty much a joke. It was largely based on Prussia's education system in 1843, which was designed to produce docile factory workers who would be educated enough to be useful but not smart enough to think for themselves or organize. This model is still in use today: schools teach people to conform, to think in ways that are useful, and to not question authority. Just like social media, it pretends to be a service for the public while in fact being a tool for the rich to shape the public. This is most obvious when looking at what parts of history are taught: video essayist Knowing Better calls this "the Great American History Myth," as it's designed to give the impression that one knows history when in fact one knows nothing.

Subnote: In its modern form, the education system has evolved somewhat from its 1843 Prussian roots, most notably the addition of higher education. More skilled workers are needed

and not everyone can be a menial worker, after all. However, the higher education system is also constructed to keep people servile; instead of molding children, it is designed to catch those too intelligent to be held back by grade school and put them in debt. College costs have been skyrocketing with zero regulation, and often the only way to get a "good education" is to take on massive amounts of debt, which puts these more educated people into a position where they have no choice but to allow the rich to use their newfound skills, often for decades. The exception is of course those from already-wealthy families, who have no problems gaining more skills, because the system was designed to benefit them in the first place. In some cases, being from such a wealthy family could get you accepted into a prestigious university automatically, although that practice is less common (or at least less blatant) nowadays as far as I know.

Note 10:

This is thought to be a big part of why cities and colleges are more left-leaning! It's more difficult to be bigoted when you're constantly surrounded by and interacting with many different types of people; conversely, if you live in a rural town full of nothing but cishet white people (for example), it's very easy to fear "the others." This is also relevant in online spaces- groups that are considered 'undesirable' or 'weird' in some way, and spaces specifically for such groups, are also generally left-leaning. Common examples include the LGBT+ community, neurodivergent people, furries, otherkin/therians, and the BDSM/kink community.

Subnote: all of these groups are often portrayed as sexual, because it's an easy way to condemn them as 'deviant', especially with American society's generally conservative view on sex as a whole. None of them are exclusively about sex, even the last one- but you basically have to be in them or know someone who is to know that, since they're often banned from platforms. This marginalization is also why these groups overlap so much- once you're an outcast, you're free to discover things about yourself you might have otherwise repressed. You're already 'one of those weirdos,' so why not own that? Honestly, I could write a whole paper on that identity overlap and related phenomena, like how nonhuman identities are often a result of reclaiming dehumanization and how religious outcasts tend to identify with the demonic, but it's way out of scope for this project.

Subnote²: These 'deviant' groups are also very likely to build spaces for themselves. It's fairly well-known that many people who built early internet infrastructure were furries, which is often attributed to the fact that people who are technical enough to build fancy exosuits tend to be the type of people that like making computers talk to each other. Nowadays, we're seeing a similar phenomenon: many people who work on open-source projects are in at least one of these groups. It's often thought to be due to some combination of: the social outcast status leaving more time for technical/solo hobbies, such solo hobbies leading to more time for self-reflection, and the desire for such outcast groups to have a space for themselves. As far as I know these phenomena haven't really been formally studied, which is entirely expected.

Note 11:

Unsurprisingly, this section is very difficult to find good sources for. Figuring out why is left as a (hopefully trivial) exercise for the reader. Some sources that didn't make the cut included a

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paper linking political polarization to income inequality (which is expected if both come from exploitation of the working class) and one that found that "elites" polarized first and fastest, and the masses polarize less strongly- which is again expected if the polarization is purposeful.

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