Social Media and Health: the Cure or the Disease?

The rise of social media

Social media is a phenomenon. An epidemic. An addiction.

Social media unites people across the world, and deepens the divisions between them. It invites everybody to join a global conversation, while making individuals feel isolated and excluded. It has liberated mankind, and threatens to enslave us.

All of these contradictory claims have been made about social media, and they are all true - depending on which source you believe.

The paradox of social media is summed up by a spectacle we see every day. A group of friends out together but ignoring each other because they're all on their smartphones, communicating with other friends who aren't there. We have never been better connected yet more apart.

If the internet is the world's central nervous system, social media is its stream of consciousness. The content is raw, unfiltered and chaotic. It is hyperdemocratic, because it delivers a worldwide audience to anyone with a smartphone and an opinion. And because it is unregulated, nobody is accountable when things go wrong. With great power comes great irresponsibility.

The success of social media

One reason for the popularity of social media is that it mirrors the human psyche at every level. Twitter is an outlet for the Id: spontaneous and impulsive, a hotline to the amygdala and the passion, fear and loathing it harbours. Also a lightning rod for quick-fire witticisms and whip-smart responses. Facebook reflects the Ego: self-centred, self-aggrandising and virtue-signalling, it tells the world how great you are and what a wonderful life you are having. It also engenders FOMO, envy and schadenfreude. What represents the Superego in this analogy - the wise, moderating influence that silences the Id and keeps the Ego in check? Maybe professional platforms like LinkedIn. Perhaps long-copy articles like this.

But the truth is, social media has changed the way we process information. We are reading more than ever, but we consume the information in bite-sized chunks - chicken nuggets of news that are easy to digest. This suits the fast, intuitive 'System 1' thinking identified by the Nobel prizewinner Daniel Kahnemann[1] as our dominant mode of decision making. It makes us amenable to the 'nudge' behavioural change strategies identified by fellow Nobel laureate Richard Thaler.[2] In fact social media provides a living laboratory to test the theories of behavioural economics.

Algorithms analyse what makes us scroll, click and share on social media, and they adapt content to appeal to it. And because they can measure every action, they are constantly learning better ways to press people's buttons. This has led to the rise in 'clickbait' - controversial content designed to provoke a response. What people respond to most strongly, unfortunately, is gossip, sensation, scandal and outrage. Our cognitive biases mean we are drawn to negative news (negativity bias), we

ignore views that clash with our beliefs (backfire effect), and cleave to arguments that reinforce them (confirmation bias). Then the availability heuristic kicks in - seeing the same set of opinions makes us think more people share them - and our views become more partisan and opinionated. The connections we choose through social media create 'echo chambers' of like-minded people who reflect our opinions, and this fuels tribalism and extremism.

The fight for eyeballs on social media has been termed the 'attention economy'. Although attention is the currency, most of the algorithms are driven by commercial aims. Like radio and TV, social media platforms were originally developed to deliver an audience to advertisers. However altruistic Google's founding principles, its business model is based on monetising online activity, converting clicks into ad revenue.

Advertising and social media

At first sight, social media appears to be the ideal ecosystem for advertising, as it runs on soundbite communications that generate instant responses. Advertisers have jumped in at the deep end, and many have prospered, although some have struggled or sunk. Traditional advertising was a dialogue controlled by the advertiser, but social media is a conversation of a thousand voices that can easily out-shout an unwelcome intruder. Not all advertisers have adjusted to the rules. While social media makes people behave like brands, the need for acceptance forces brands to behave like people - and pretty irritating and needy people at that. Please Like me. Please follow me on Facebook. (If you've ever followed a brand on Facebook, you need to take a long hard look at yourself.)

Brand managers crave deep relationships with their customers, but most people's relationship with most brands is as shallow as spit on a barbecue. Programmatic advertising, which automatically selects ads and micro-targets them to individual consumers, has merely made them more irritating, as the ads stalk you like an unwanted party guest desperate to join your group. There is also concern by advertisers that their brands are being associated with groups that hold extreme, hateful or anti-social views - not the demographic they would wish to target.

Many agencies have had trouble adjusting to the language of social media as well. Writing in Creative Review magazine, Nick Asbury[3] lamented the demise of insightful, long-copy approaches like the Stella Artois 'Reassuringly expensive' campaign, now replaced by the meaningless hashtag #BeLegacy. The emptiness of social media interactions has been criticised by Unicef's fundraising campaign saying "Like us on Facebook, and we will vaccinate zero children against polio."

But the majority of agencies are optimising their messages for mobile devices, re-formatting ads into PockeTVCs - pocket TV commercials that are shorter and more visual so they appeal to time-poor consumers. The consensus is that 15 seconds is the optimum length of communication to the attention-deficit generation.

Politics and social media

We now know that social media is even more effective as a political tool. The rise of social media has coincided with global changes in people's beliefs and behaviour - mistrust of elites, loss of faith in traditional sources of authority, and a disregard for truth. It is therefore a fertile medium for paranoia, conspiracy theories and fake news, which political interests can tap into.

Donald Trump was propelled to power by social media, and in many ways he is a product of it. Twitter, it turns out, is the perfect mouthpiece for a politician with an attention span of 140 characters and minimal interest in the truth.

There is compelling evidence that Russia used online bots and state-sponsored troll factories to manipulate opinions[4] in the run-up to the US election and the EU referendum in the UK. Facebook admits that before the US election, 146m users were exposed to Russian misinformation on its platform. The Great Game that Russia is playing in the 21st century is heavily reliant on propaganda, according to Theresa May, who accused Putin of 'weaponising information'.[5]

The story is still evolving, with allegations that politically-motivated organisations such as Cambridge Analytica[6] devised 'astroturf' (fake grassroots) social media campaigns to support Trump's presidential campaign and the Leave campaign in the UK. But the principle of using social media to advance a nefarious political agenda is hardly news. The TV series *Homeland* portrayed a quasi-governmental 'boiler room' called the Office of Policy Coordination whose aim was to spread propaganda using untraceable accounts. It is alleged to be based on the Internet Research Agency[7] in St Petersburg.

It is impossible to gauge how much influence social media activity has had on overall voting behaviour. Individual posts probably have minimal effect. But millions of tiny nudges, targeted at undecided voters in swing constituencies, may add enough momentum to tip political outcomes.

Healthcare and social media

Health is one of the commonest topics on social media, because it is a fundamental human preoccupation. There are many patient discussion groups, such as PatientsLikeMe, as well as platforms serving HCPs, including SERMO and the M3 Group, which includes doctors.net in the UK.

The healthcare and pharmaceutical industries long to get involved in the conversation, if only to correct misinformation and bad health advice. But they have been relegated to the sidelines because of compliance and regulatory issues. There is little guidance on social media from regulatory bodies like the FDA, EMA and ABPI, and some companies have unwittingly breached codes due to posts by themselves or their customers.

A Datamonitor report[8] singled out Boehringer Ingelheim, Johnson & Johnson and Bayer as the pharma companies that are leading the way in social media. They have a presence on multiple social media sites and are actively engaging with patients, physicians and the general public. However, the traffic they generate is minimal compared with other industries, and they are barred from public conversations about

the things that are most important to them: their products and how they can benefit people.

Company	Facebook followers
Bayer	2,751,859
Boehringer Ingelheim	1,009,202
Johnson & Johnson (jnj)	765,500
Novartis	249,521
Pfizer	287,446
GSK	253,800

Company	Twitter followers
Novartis (@Novartis)	224,291
Pfizer (@pfizer)	213,817
Roche (@Roche)	168,116
Merck & Co. (@Merck)	145,013
Johnson & Johnson (@JNJNews)	157,205

Which pharmaceutical companies are leading the way in social media?
(From #pharma. An analysis by Talkwalker. Pharma Times, November 2017.[9])

At the moment, a great deal of the feedback from the public is negative. So if the industry sees social media as a way to improve its reputation, it faces an uphill struggle. A digital patient engagement manager quoted by Datamonitor said: "[Patients] are not always that interested in communicating with pharma companies; they're interested in communicating with each other. Pharma wants to insert themselves in that dialogue, but it's not obvious that is something that patients would want us to do."[8]

This is a huge frustration to pharma companies, who see patients as the focus of their endeavours. They may be unable to have a proper conversation with their customers, but at least they can give them a good listening to. Deepening our understanding of what patients want and how we can meet their needs will ultimately help us to build stronger relationships with them.

Social media and health

When a highly regulated industry like healthcare collides with a massive unregulated ecosystem like social media, it isn't going to make much of a dent. But what about the impact of social media on health?

There is growing concern about the adverse effects of social media on mental health. Heavy users of social media suffer from anxiety and depression caused by bullying and peer pressure, especially teenagers, who are prone to insecurity and seek social approval.

And there is increasing evidence that social media is changing the way people think and behave.[10] Exposure to multiple screens creates a state of 'continuous partial attention', limiting people's ability to concentrate, and possibly lowering cognitive ability. The distraction caused by people at work constantly checking their phones has been dubbed 'cyberslacking'. A senior analyst at the Bank of England has claimed that this attention crisis may be partly responsible for the UK's low productivity.[11]

This is borne out by research from Dscout which shows that the average person touches, swipes or taps their phone 2,617 times a day, while for heavy users it's over 5,000 times.[12] Many people admit they have become psychologically dependent on their smartphone, for which the only cure is a 'digital detox' where they abstain from using their device.

HEAVY USER	AVERAGE USER
5,427 average daily touches	**2,617** average daily touches
225 average daily minutes	**145** average daily minutes

Phone interactions and screen time per day (Dscout Research)[12]

Tech industry insiders have gone further, claiming that social media platforms incorporate features that are deliberately designed to be addictive. Nir Eyal, author of *Hooked: How to Build Habit-Forming Products*, lists the triggers and behavioural cues that platforms like Instagram incorporate to reinforce use. He describes the compulsion created through advertising models as 'brain hacking'. The techniques have also been catalogued in Adam Alter's book *Irresistible: The Rise of Addictive Technology and the Business of Keeping Us Hooked*.

They include subtle psychological tricks like variable rewards, the pull-to-refresh feature on Twitter, and the 'Like' button on Facebook, which activates dopamine pathways by providing social validation. These claims are supported by researchers in Amsterdam who found that using Facebook causes 'hedonic reactions' and activates areas of the brain in the same way as cocaine.[10]

Such is the concern about the harmful effects of social media, a counter-movement has arisen to raise awareness of its manipulative potential. It is led by Tristan Harris,

who was formerly a 'design ethicist' at Google. Harris argues that social media is changing our democracy, and our ability to have the conversations and relationships that we want with each other. He is joined by other refugees from Silicon Valley, who have not just withdrawn from the digital world but quarantined themselves and their families.

Adding weight to the argument - if any were needed - is Sean Parker, who co-founded Facebook with Mark Zuckerberg. In an interview with the US news site Axios, Parker said that Facebook "knowingly exploited a vulnerability in human psychology" to draw people in and keep them hooked.[13] This is not just a whistleblower having a crisis of conscience about his former employment. It's Dr Frankenstein admitting that he has created a monster.

Social media in crisis

The world is in turmoil, and social media is taking the blame for many of its ills. It has been accused of pathological effects on people's health, creating addiction, changing human behaviour, undermining institutions, subverting democracy and threatening the fabric of society.

Social media is not the first popular phenomenon to face public criticism. In recent years, TV and pop music were seen as threats to civilisation. In the past, tulip mania, economic bubbles and fortune-telling were held up as examples of 'the madness of crowds'.[14] But the growth of social media has been exponential, and the number of people it reaches is unprecedented. Facebook has nearly 2 billion users and stores over 300 petabytes of data.[15] People willingly give up so much personal information to social media platforms that the capacity to exploit individual vulnerabilities is mind-boggling.
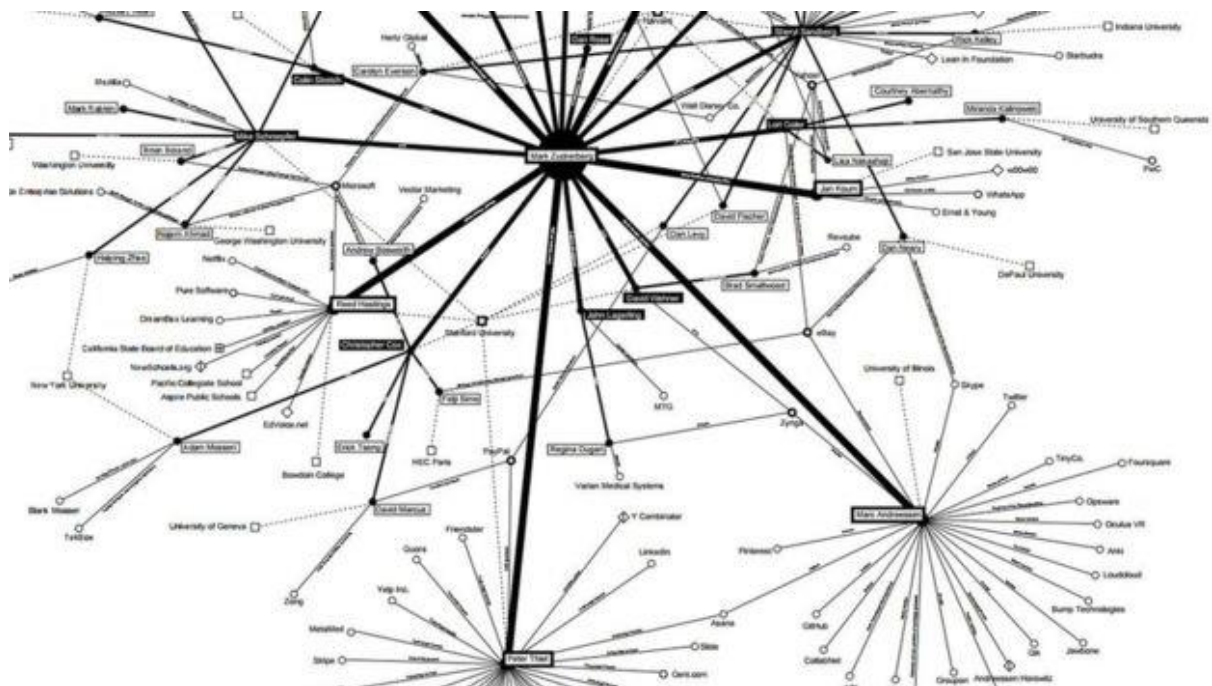
Part of a flow chart mapping the influence and connections of Mark Zuckerberg (Share Lab)[15]

We now seem to have reached peak outrage about social media, and there are signs of a change in attitude. Advocacy groups such as Time Well Spent are lobbying to change the way big tech companies treat their customers. Mark Zuckerberg is striving to detoxify Facebook, stating that "Protecting our community is more important than maximising our profits"[16] (an announcement that came as the company posted its first ever $10bn quarterly earnings result). He is also changing the Facebook lexicon, swapping 'community' for 'connection' as the ultimate good.

Sheryl Sandberg, Facebook's COO, has apologised for enabling Russian meddling in the presidential election,[17] and has promised to release information on ad targeting. Twitter has redoubled its commitment to monitor and police malicious behaviour on its platform.

The future of social media

Man is a social animal that is capable of altruism and generosity as well as narcissism, prurience and abuse.

Though social media undoubtedly has pernicious effects, it also conveys content that is intelligent, positive and life-affirming. Being connected makes people feel part of the current of humanity. And objectively speaking, the majority of traffic is 'white noise' - trivial, benign and boring to everyone except the sender.

Because of the transformative power of social media, it's no surprise that we are going through a moral panic. Perhaps this is a necessary stage in its life cycle before it matures into a higher form. At the end of the process, we may end up with a version of social media that serves people without exploiting them.

Understanding the potential of social media to spread misinformation and manipulate opinions may make people more critical about the content they view. Knowing that the majority of participants on Twitter are not human - they are either bots or 'sock puppet' accounts - is making users question who they are conversing with. There are calls for greater transparency to strip away the anonymity that conceals the true actors and provides a cover for hateful behaviour. And the backlash against fake news seems to have stimulated a resurgence in quality journalism.

There is also huge pressure on social media platforms to clean up their act, take responsibility for content, scrutinise who is providing it, and ultimately, to regulate or be regulated.

It has been argued that by its nature, social media cannot be controlled. Well, yes it can, as President Xi has proven in China. China has built a nationwide firewall to insulate its citizens from outside influence, and is preparing to launch its 'social credit system', which assesses a person's personal data, including their online and social media activity, to assess their trustworthiness.[18]

Social media grows up

The birth of social media reflected the attitudes and beliefs of its founders: liberal, optimistic, borderline naive. They probably did not intend to build a dystopia just to

make people click on ads.[19] But making a fortune is not compatible with making the world a better place.

Any closed system tends to move from order to disorder. The second law of thermodynamics also applies to the closed system of social media. To prevent order descending into chaos requires energy and intelligence, either human or artificial.

Technology is blamed for many of mankind's current problems, even though human actors are behind the 'misinformation technology' of social media. Technology may also hold the solution. Algorithms have no morality, but they can be designed around an ethical agenda.

To rebuild trust, social media needs to grow up and evolve a social conscience. That is the next challenge for the tech giants.

While social media struggles through its growing pains, perhaps it's no bad thing that the pharma industry is maintaining a low profile and keeping its communications professional, ethical and compliant. Though it's tempting to jump into a conversation, especially when your customers are saying bad things about you, it's sometimes wiser to sit back and listen. To follow the advice of Jorge Luis Borges: "Don't talk unless you can improve the silence."

References

1. Daniel Kahnemann. *Thinking, Fast and Slow.*
https://en.wikipedia.org/wiki/Thinking,_Fast_and_Slow
2. Richard Thaler. https://en.wikipedia.org/wiki/Richard_Thaler
3. Nick Asbury. Too long didn't read. Creative Review, October 2017.
https://www.creativereview.co.uk/too-long-didnt-
read/?cmpid=crnews_4207268&utm_medium=email&utm_source=newsletter&utm_campaig
n=cr_news
4. Do social media threaten democracy? The Economist, November 2017.
https://medium.com/@the_economist/do-social-media-threaten-democracy-7cc541ebe462
5. Theresa May accuses Russia's President Putin of 'planting fake news' in a bid to
undermine the West. The Telegraph, November 2017.
http://www.telegraph.co.uk/news/2017/11/13/theresa-may-accuses-russias-president-putin-
planting-fake-news/
6. Did Cambridge Analytica influence the Brexit vote and the US election? The Guardian,
March 2017. https://www.theguardian.com/politics/2017/mar/04/nigel-oakes-cambridge-
analytica-what-role-brexit-trump
7. Hot Singles in Your Area Want to Putin: Click here to like the all new global cyber-war on
social media. Tim Boucher, Medium.com, November 2017.
https://medium.com/@timboucher/hot-singles-in-your-area-want-to-putin-f0f46519207a
8. Social Media in Pharma. Datamonitor Healthcare, January 2017.
9. #pharma. PharmaTimes, November 2017.
10. "Our minds can be hijacked": the tech insiders who fear a smartphone dystopia". Paul
Lewis, The Guardian, October 2017.
11. Cyber-slackers doom UK economy. The Times, November 2017.
12. Putting a finger on our phone obsession. https://blog.dscout.com/mobile-touches

13. Sean Parker unloads on Facebook "exploiting" human psychology. Axios, November 2017. https://www.axios.com/sean-parker-unloads-on-facebook-2508036343.htmlpopular delusion
14. Extraordinary Popular Delusions and the Madness of Crowds. Charles Mackay, 1841. https://en.wikipedia.org/wiki/Extraordinary_Popular_Delusions_and_the_Madness_of_Crowds
15. How Facebook's tentacles reach further than you think. BBC News, May 2017. http://www.bbc.co.uk/news/business-39947942#share-tools
16. Financial Times on Twitter. https://twitter.com/FT/status/925867567843106818
17. Sheryl Sandberg: Facebook owes US an apology over Russian meddling. The Guardian, October 2017. https://www.theguardian.com/technology/2017/oct/12/sheryl-sandberg-facebook-owes-us-an-apology-over-russian-meddling
18. These 5 Facts Explain Why China Is Pulling Ahead of the West. Time, November 2017. http://time.com/5007097/china-winning-5-facts/
19. Zeynep Tufekci TED Talk. We're building a dystopia just to make people click on ads. https://www.ted.com/talks/zeynep_tufekci_we_re_building_a_dystopia_just_to_make_people_click_on_ads