



LISTENING

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PREJUDICE

USING BLOCKCHAIN TECHNOLOGY TO COUNTER PROPAGANDA IN A 'FAKE NEWS' ERA

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Joseph Goebbels, the Reich minister of propaganda in Nazi Germany from 1933 to 1945, is credited by many authors as the father of modern-day propaganda. The 1950 article, *Goebbels' Principles of Propaganda*, has 19 principles he used to conduct propaganda campaigns, according to the article's author, Yale psychology Professor Leonard Doob. These principles are still widely used, albeit through a more pervasive medium — the internet — and have led to a “fake news” crisis. It is difficult to attribute the term fake news to a specific person or organization because it quickly evolved in meaning and context and wasn't used much before the 2016 United States presidential election. At least 100 fake news websites that were reporting false stories about the U.S. election were discovered to have been registered in Veles, North Macedonia, according to the BBC. People in Veles were using the election, a hot and contested topic, to generate advertising revenue by driving internet traffic to their websites.

There has since been a proliferation of fake news, primarily of a political nature, appearing on social media and in the traditional news media. The BBC has questioned whether fake news is propaganda or online opinion, and whether people deliberately put out news to earn money online or if news agencies are simply making mistakes. Whichever the case, it is in the best interests of every government to understand and confront the fake news phenomenon. France, Malaysia, Singapore and the United Kingdom, among other countries, have embarked on efforts to enact regulations to curtail the fake news menace.

There have been various proposals on how to deal with fake news. The Brookings Institution proposes measures that would support investigative journalism, reduce financial incentives for fake news and improve digital literacy among the public. The idea of supporting investigative journalism to combat fake news is echoed by Bruce Mutsvairo and Beschara Karam in their book *Perspective of Political Communication in Africa*.

The BBC suggests third-party fact-checkers review social media and the use of algorithms to detect fake news. Bruce Bartlett, in his book *The Truth Matters: A citizen's guide to separating facts from lies and stopping 'fake news' in its tracks*, also supports fact-checking through the use of journalistic links to credit sources and give credibility to the news. The BBC further points to the importance of educating people about fake news and how to spot it. From these suggestions, it is clear that the problem isn't really the proliferation of fake news, but the lack of a system, especially on the internet, to separate fake news from the truth. This article attempts to discuss the possibility of blockchain technology as the missing link between online audiences and their ability to differentiate true and reliable sources of news from fake news.

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BLOCKCHAIN

In very simple terms, blockchain technology can be described as a master ledger that contains a series of transactions and that is distributed among a series of nodes (computers). Each node in a blockchain network is independent and is considered a “peer,” i.e., of equal status, authority and privileges over transactions in the network. Peer-to-peer networks do not have the inherent dangers associated with a centralized system, which, when attacked, compromises every computer in that network.

Blockchain technology has three distinct advantages that are relevant to the discussion of fake news: self-regulation, verifiability and trust. Each peer node has a private key that is used to approve transactions. Further, for a transaction to be approved, there must

be a consensus of nodes. It is therefore extremely difficult for a rogue node to invent a transaction and approve it because there are usually thousands of nodes in different geographical locations around the world, and infiltration of all such nodes is almost impossible and would also require an extra powerful computer. Because of this, blockchains are self-regulatory, a key aspect for an independent media and for countering fake news. Also, a transaction can only be posted on the master ledger if nodes verify such a transaction. The system ensures that only valid transactions are posted, i.e., a block can only be added to the chain after it has been verified by users in the blockchain network. And lastly, the element of trust is underscored by the fact that the master ledger records all changes. Every node has access to the distributed master ledger, and any new transaction or change is added as a new “block.” All details of all changes made from the time the original block was established are available to anyone in the network.

BLOCKCHAIN APPLICATION

Although blockchain technology can be applied in many ways, this article focuses on four applications that make it a unique solution for dealing with fake news. First, blockchain can improve the media's self-governance based on the system's transparent nature. Because all transactions in a blockchain are available to everyone on the network, and because it is almost impossible for a transaction to be approved without consensus, blockchain makes it difficult for fake news to exist and thrive.

Second, blockchain can guarantee the anonymity of whistleblowers or news sources, thus encouraging people with information to come forward and share their stories without fear of reprisals. While blockchain transactions are available for all to see, the users' identity can be anonymous. A critique of this application is that it may also encourage people to come forward with fake news, which defeats the purpose of using blockchain to counter fake news. However, this is mitigated in three ways. First, a time stamp and location of a blockchain transaction can be used to verify information. Second, blockchain transactions must be validated by nodes before approval. In simple terms, a fake story is unlikely to be approved if other nodes detect it is false. It is therefore unlikely for a random person to fabricate fake news and have that validated in a blockchain network. Third, through blockchain a person can have an online identity, anonymous or otherwise, that is identifiable with the use of a private key. It is therefore possible for an anonymous source to prove its identity to the media. For example, a spy wanting to disclose confidential information anonymously can verify his or her identity to media sources. This enables the media to also verify the legitimacy of the spy's sources.

The third blockchain application relevant to combating fake news is the ability to have direct transactions without a middleman, i.e., directly between nodes. This reduces possible journalistic distortions to favor one side of the news. For example, a government can release news directly to the public without going through media agencies (keeping in mind that the information must be verified by other nodes in the blockchain network to minimize the effects of government propaganda). Further, in the current era of smartphones, the public can be news sources apart from the traditional news media. Blockchain ensures that the public can share local news with others while limiting the emergence of fake news from nontraditional media.

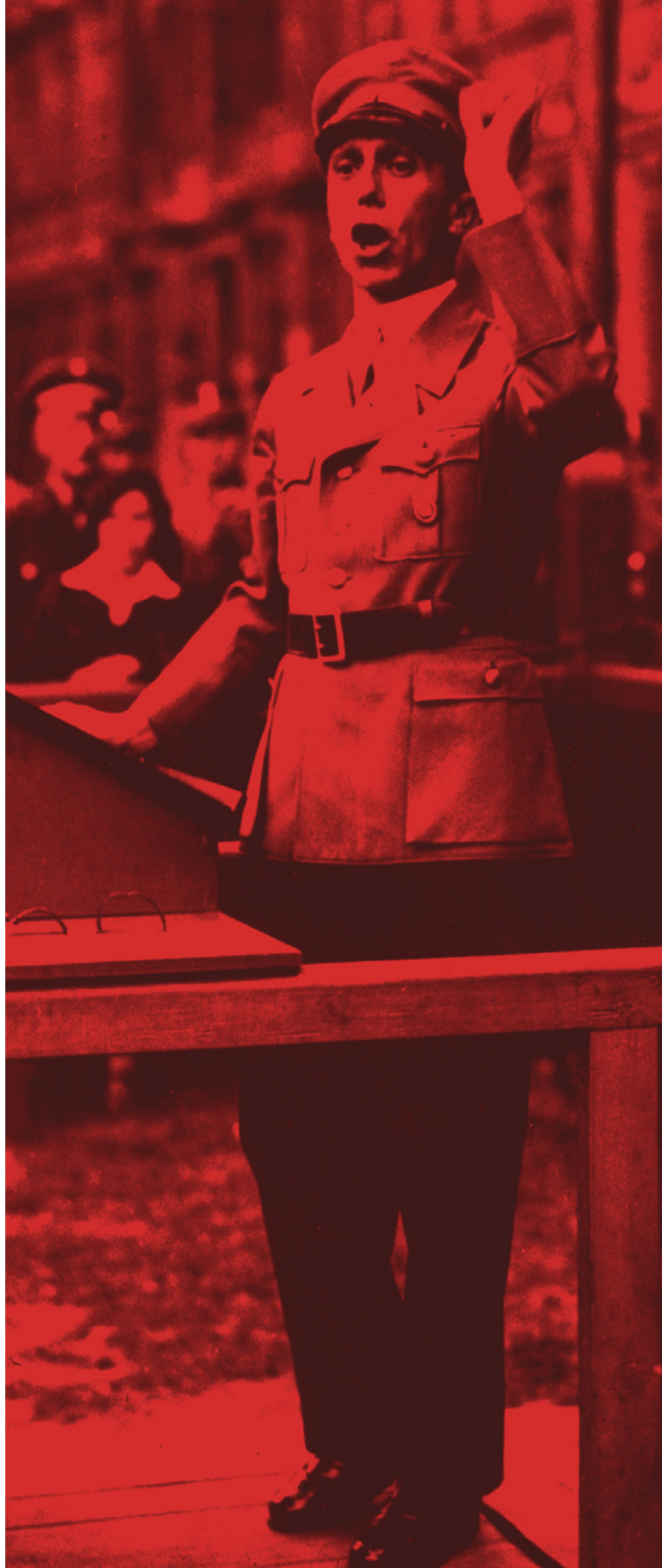
Lastly, because blockchain information is verified, both the government's and the media's ability to predict news and events is greatly improved, helping them prepare for every eventuality. For example, verified news reports on certain weather conditions or patterns can help humanitarian relief efforts. Predictability also enhances the utilization of resources on identified priorities.

PROPAGANDA PRINCIPLES

Modern-day fake news operates on the same propaganda principles ascribed to and documented by Goebbels. Therefore, it is important when discussing fake news to analyze the principles that Goebbels used to spread propaganda within Nazi Germany and abroad.

A key tenet of Goebbels' principles is that there must be a central body, with access to intelligence information, in charge of propaganda. The fewer people with access to that intelligence, the easier it is to manipulate the public. Blockchain promotes validation and transparency of information within the blockchain network and therefore easily counters this principle. Also, blockchain provides an option for anonymity, ensuring that people with confidential information can share it freely without fear of reprisals, although this increases the danger of divulging confidential intelligence into the public domain without consideration of the consequences. According to the BBC and CNN, for example, the U.S. claimed that a Wikileaks' release of confidential diplomatic

Joseph Goebbels, the German minister of propaganda from 1933 to 1945, is considered the father of modern-day propaganda tactics. Here, he addresses storm troopers in Berlin in 1934. THE ASSOCIATED PRESS





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This 2016 photograph shows bogus stories from USA Daily News 24, a fake news site registered in Veles, North Macedonia. An analysis found roughly 200 U.S.-oriented sites registered in Veles, which emerged as an unlikely hub for distributing disinformation on Facebook.

cables endangered U.S. operations and foreign policy efforts. Even Goebbels noted the importance of taking into account the consequence of propaganda before effecting it. A key question that arises, given the peer-to-peer nature of blockchain, is whose responsibility it will be to determine the timing of news and the consequence of releasing that news at a specific time, i.e., will it make the situation better or worse?

According to Goebbels, “black propaganda,” which is propaganda with disguised sources, can be considered more credible than “white propaganda,” which openly reveals its origins. In other words, propaganda supporting a government may be more believable if it comes from a source other than the government. This is also linked to his principle of propaganda being credible. Blockchain’s transparency makes it difficult for people to believe rumors when a credible and verifiable news system is in place.

Goebbels had two principles relevant to attention-grabbing headlines. First, that propaganda must be projected through an attention-grabbing medium and must provoke the targeted audience. Second, propaganda must label people with distinctive phrases and slogans that are easy to remember and that evoke the desired responses from the

audience. This has indeed been a legacy of fake news, which uses attention-grabbing headlines to arouse people’s emotions and increase their probability of clicking on a link. Because a majority of online advertisement revenues are based on the pay-per-click model, attention-grabbing headlines are designed to drive maximum online traffic. This commercial incentive is not inherently a bad thing, given that the news media needs to generate revenues to exist, but blockchain can ensure that the information being passed along is real. A challenge that may arise is where a misleading headline links to a true story. It is not clear whether blockchain transactions would include the verification of headlines. Unlike transactions such as bitcoin sales that are easy to verify and approve, approval of media stories and headlines may be more complicated since news depends on context and may be limited to the knowledge of a local population. Of course, opportunities exist for local media blockchains that could verify local stories, but that would involve getting a critical mass of local people and organizations on board. This involves the creation of an incentive that would motivate people to contribute to the blockchain.

SHORTCOMINGS

While blockchain addresses most fake news concerns, it is by no means a silver bullet. A major blockchain weakness also happens to be its greatest strength: It is a distributed system, in which each node has equal power and privilege. There is no central authority or figure to determine the timing of news, which can have real and devastating consequences.

BLOCKCHAIN TECHNOLOGY ALSO OFFERS A POSSIBLE SOLUTION BECAUSE IT PROMOTES SELF-REGULATION OF THE MEDIA AND VERIFIABILITY AND TRUST OF NEWS SOURCES.

Also, blockchain doesn't have a remedy for every type of propaganda. For instance, one of Goebbels' principles is that propaganda may be facilitated by leaders with prestige. These leaders can be viewed as credible news sources. For example, any official statement by a country's head of state can be new information that cannot be verified because that official is also deemed as a news source. While blockchain may later identify a false claim, and take away such a person's credibility, there remains the possibility of fake news being passed on as truth by leaders with prestige.

Additionally, blockchain assumes that there are no political or social enmities across societies and that access to information is indiscriminate. In a world divided by religion, politics, and economic, social and cultural metrics, access to information by one party may give that party an undue advantage. Therefore, access to validated news may end up being used with adverse repercussions.

Another of Goebbels' principles is that credibility determines the truth or falsity of propaganda. Expediency, and not morality, matter because truth sometimes damages credibility, i.e., some truths may

appear to be untrue because of strong beliefs held by people. Therefore, there is a chance that people may still refuse to believe truth even when it has been verified because it goes against a deep-seated belief. In his book, *The Knights of Bushido: A History of Japanese War Crimes During World War II*, Edward Russel notes that there are some people who refuse to believe facts even when presented with evidence. Hugo Mercier and Dan Sperber also note in their book, *The Enigma of Reason*, that human reasoning is biased and sometimes the bias overpowers rational thinking. Therefore, blockchain may help curb but will not totally erase the believability of fake news.

Lastly, a credible local and international media blockchain, or different blockchains, requires incentives for the media and the public to use it. Recent research by the Brookings Institution shows that most online users get their news through social media. Therefore, it is important to find ways to integrate blockchain with social media or to get people to shift from social media to a particular blockchain for their news. There is also a need to create an incentive that is strong enough to encourage global collaboration by media outlets.

CONCLUSION

The proliferation of fake news has largely been blamed on echo chambers on social media platforms where users reinforce and encourage their beliefs, whether true or false. Fake news has also thrived in the absence of a system to validate news sources and in the 24/7 news cycle, and through traditional media and social media. Various solutions have been proposed to deal with the fake news crisis, including support for investigative journalism and fact-checking.

Blockchain technology also offers a possible solution because it promotes self-regulation of the media and verifiability and trust of news sources. Blockchain counters most of the principles of propaganda advanced by Goebbels that promote the proliferation of fake news. However, blockchain still faces challenges in combating fake news. Blockchain is a peer-to-peer network with no centralized decision-making authority, and it may favor one person or group over another if verified information about an opposing person or group is not made available to the opposing person or group. There is also no guarantee that people will believe the truth if it contrasts with a deep-seated belief. There should also be incentives that encourage media outlets and the public to come together to provide and consume news through blockchains. Regardless of these challenges, blockchain technology presents an exciting opportunity for combating fake news in an era where anyone with a mobile phone can be an instant journalist. □