Misinformation as a Window into Prejudice: COVID-19 and the Information Environment in India

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In the aftermath of the COVID-19 crisis, there has been a massive amount of misinformation both related to the condition, and a range of linked social and economic issues. We present a mixed methods study of misinformation debunked by Indian fact checking agencies since January 2020. Alongside this, we present an analysis of what politicians in India have been discussing in the overlapping period. We find that affective issues dominate misinformation, especially in the period following the lockdown in India. Furthermore, we find that communal prejudice emerges as a central part of the misinformation environment, something that is reflected in the political speech around the same period.

CCS Concepts: • **Human-centered computing**; • **Information systems** → *Digital libraries and archives*;

Additional Key Words and Phrases: Misinformation; Ontology; Culture; Fact-checking; India; Twitter; Politics; COVID19; Coronavirus; Fake news

1 INTRODUCTION

COVID-19, arguably the most disruptive event of global scale of our times, has offered an opportune case for misinformation with the fear and uncertainty it presents. In India, the case load grew quickly to rank it amongst the top ten worst affected nations, a situation that was aggravated by weak state capacity and a health system that lacked the ability to ramp up, causing panic among citizens concerned about being on their own in the event of infection [62]. The government's response to Covid also triggered the region's largest migration crisis since partition, with millions of stranded wage workers trying to get back to their homes from cities where they lost their housing and source of income, after the country was shut down on 4-hour notice [93]. The shutdown restricted peoples' movement and engagement with public spaces, and the additional gaps in their information environment caused by the halting of newspaper delivery in many parts of the country gave a new importance to mobile devices. These became central to peoples' news consumption, especially in urban India, through the lockdown.

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In this paper, we examine the extent and narrative threads of misinformation that has circulated in India since the COVID crisis broke. Our research is descriptive than hypothesis driven - we set out to map the contours of misinformation in India, and contextualize it within the socio-religio-political information environment in India.

Using a mixed-methods approach, we offer three contributions. First, we examine ontological approaches to categorizing misinformation, and iteratively create one that is COVID-specific. We use this to categorize and systematically annotate debunked misinformation. Second, we provide detailed analysis into the categories of misinformation that have emerged since January 2020. Third, we contextualize these to the recent history of political polarization by conducting a topical examination of 1.3 million tweets from 7806 politicians throughout India during the same period to seek intersecting trends.

2 BACKGROUND

Starting in 2016, India has seen considerable changes in the information and news consumption environment as millions of Indians found themselves newly inducted into high-bandwidth social media use as a result of dramatic falling prices of connectivity and smartphone costs [18]. Within a short period of time, India went from having a communications environment that was largely dominated by print and television to one where the online population was no longer small and elite. The movement of news consumption online came with a new set of challenges including the unmoderated flow of content[29], context collapse [25] and separation of news consumption based on ideological leaning [17].

Politicians were quick to adapt to the changing information environment, and joined the social media bandwagon with force and alacrity [70, 79, 92], engaging professional online campaign management through consultancies and advertising agencies[83]. This change not only impacted the elite English language media, which previously dominated social media driven political communication, but also the Hindi and vernacular media [78]. As with elsewhere in the world, the opening up widespread access to the Internet and social media raised possibilities of new forms of information warfare [67]and an increasingly professionalized political culture of post-truth politics [99]. This new information environment saw the creation of an industry of factcheckers keeping track of misinformation flooding peoples' devices, from slander to motivated or purely mischievous messaging on health, finance, and politics.

Indian mainstream politics is going through one of its most divisive and polarized periods, intersecting with arguably one of the greatest health and economic crisis since independence. Prime Minister Narendra Modi ran on a populist plank in the 2019 general elections [106], winning a historic mandate, in the process giving his right wing Hindu nationalist Bharatiya Janata Party (BJP) unprecedented access to law-making. However, of importance here, the election campaign was divisive, departing from the party's past development-oriented campaign to one that focused more on ethno-nationalism which widely used a well-oiled online outreach strategy, noted for its use of aggressive trolling of opponents [32].

Two important lawmaking acts followed the BJP's election victory that had consequences for the country's information environment. First, the government abrogated Section 370 of the Indian Constitution. This stripped citizens of India's only Muslim-majority state, Jammu and Kashmir, of the ability to elect their own state leadership, as well as of statehood, putting them under the mandate of the union government. The state was also put under information restrictions with no internet access for several months [89]. While this prompted jubiliation among ultra-nationalists, it raised alarm among the residents of the state and condemnation from the international community [34].

Second, the government implemented a controversial Citizenship Amendment Act (CAA) to provide citizenship to refugees from neighboring states, so long as they were not Muslim [55]. Alongside this, the government also moved ahead with plans for a National Register of Citizens (NRC), in which individuals had to provide citizenship proof, which particularly created panic among the Muslim minority, since in conjunction with NRC it could strip individuals of their citizenship. Long simmering political insecurities were inflamed by the new rise of religious nationalism, leading to polarization, and an increasing tendency to portray the Muslim community as the 'other' or the 'political enemy' [105].

The polarization and misinformation environment that had marked the 2019 general elections, continued its trajectory as one crisis replaced another [5]. These developments in Indian politics prefaced the start of 2020, as the onslaught of the Coronavirus, or COVID-19, was around the corner. The country was witnessing among its most severe cases of public unrest and rioting since the Emergency in the 1970s, with student protests in major cities throughout the country, and crippling riots in the capital through the end of 2019 [23] and into the first two months of 2020.

3 RELATED WORK

3.1 Misinformation

Systematic studies of misinformation pre-date the digital age, tracing back to literature on rumour mongering [8]. Misinformation presents challenges of meaningful definition – either based on the type of information such as parody, propaganda, 'fake news' etc.[52] [100]. It can also be understood through the intention of its propagation [63] including malice or the distinctions between is mis-, dis- and mal-information [109], through the kind of engagement such as profit-driven engagement, or unwitting engagement, or biased propagation by individuals with negative attitudes [61]. Misinformation can also be tied in with sensemaking - work has shown that at points of uncertainty, people turn to rumors as a way to cope [31]. This, in particular, is crucial as we think about the misinformation unleashed during the COVID crisis, and the relationships that has with other forms of uncertainty and need to cope.

An imperative functional element of definition for 'fake news' has been around the notion of verifiability. The ability for a reader or aggregator to verify its claims, irrespective of the intent in its provenance helps define an item as fake news.[7]. Verifiability has also created an industry around misinformation. Fact checkers have sprung up around the world, they have an apex governing organization, and indeed fact checking has become a central part of the public sphere in many parts of the world [48].

Work has also shown that although the spreading of misinformation has a relationship with reverberations in echo chambers [21] or pre-existing biases and dispositions [37, 72, 103]. Misinformation can sometimes be "technically true" even though deeply misleading when evidence collages are strategically constructed to reinforce and garner support for disinformation campaigns by eliminating competing claims [60]. In essence, there is general agreement in the field that misinformation has served as a powerful amplifier of existing prejudices, giving voice and internal legitimacy to hate [98], and that institutional actors, when tolerant of, or actively engaged in misinformation, can offer a powerful boost to its polarizing consequences in society [82].

Spread and Tracing: Studies have found that individuals share information even after they are actively informed about its facticity [102], and that falsehoods had far greater cascades and ability to spread through online networks than the truth [108]. Pennycook's work on believability of fake news finds that an individual's psychological profiles influences their engagement with misinformation [88]. Characteristics such as delusionality, dogmatism, religious fundamentalism and reduced analytical thinking factors into association with fake news [27]. Studies in various

disciplines have shown that motivational factors such as self-expression [33], popularity [101], civic duty[18], socialising [33, 59], confirmation bias [66], selective exposure[66], desirability bias [66],information attention spans [7], emotional proximity to crisis [51] and economic gains [81] reflect the engagement mechanics of individuals. Various other studies in this domain aim to understand the role of exposure [13] to fake news and its effect on people's behaviours of searchability [45] and correction [12].

Misinformation detection on social media has been a focus area for an industry of factcheckers, as well as for academics in social and computational sciences. Machine learning based approaches for detection are twofold: unsupervised and supervised learning. While unsupervised learning models are more practical, the supervised learning models are more accurate but also more labour intensive [95]. Other models of detection and tracing such as; content based analysis, utilise factors such as news content[115], subjectivity of news[56] [90], biases[36], topical news classification [112], linguistic signal such as emojis & swear words [46] and sentiment[90] and the propagation analysis based models, utilise factors such as crowd signals [104], real-time discourse analysis [73], user behaviour predictability [15] and other social network properties [94].

However, two fundamental problems persist with any automated methods. First, features such as headlines, content style or social response are inconsistent and have limitations for prediction. While newer studies suggest building of more complex and effective models by focusing on aggregation methods, probabilistic methods, ensemble methods or projection methods [96], the problem remains that parsing articles of varied length for the narrative hook or misleading item presents significant challenges. Second, both textual and multimedia misinformation involves have innuendo and nuance, which machines are unable to accurately detect. Consequently, the advances in academic research aside, the overwhelming majority of real-world factchecking is done by human coders. Hence, the means of capturing and taxonomizing misinformation have grown as an important area of both technical and social research.

Ontology and Taxonomy: Misinformation research has historically faced different kinds of challenges of complexity and context [40] [14], from times when deception as a technique was used in adversarial contexts such as geopolitical war [6] to our current state of social media-driven online information, where the motivations and outcomes vary dramatically [18].

While there has been growing work on classification among scholars [111] and practitioners alike, building transferable taxonomies for misinformation has been difficult because of the varied domains. Past work in this space has been topic intensive, such as Amith and Tao's,2018 work on addressing vaccine hesitancy due to misinformation [9] and Bryant et. al's, 2014 work on categorising misinformation types based on websites of crisis pregnancy centers [30].

Data repositories and their management are major challenges in misinformation research [113] [114]. A concern with categorizing misinformation is populating a dataset with what can defensibly be called misinformation. Published factchecked misinformation, which are the most commonly found data, only include stories that are debunked and published, not what may be spreading under the hood. Once the dataset is populated, creating usably granular taxonomies is difficult without context, since making sense of misinformation related to a health event, such as COVID, may require a very different approach than for other - say political or financial misinformation. One approach of has been to taxonomize formats, claims, sources and engagements, as seen in Brennen et. al's study of COVID misinformation [26]. A different approach is seen in another recent study on COVID related misinformation in Iran by Bastani & Bahrami underlines some of these challenges [20]. Authors find that cultural factors demand pressure for information to circulate during the crisis, giving way to misinformation dissemination and causing psychosocial, economic and health consequences. The study highlights the deeply interpretive nature of taxonomies, in

that any analysis of misinformation is driven at least in part by what authors decide is important to categorize and analyze.

There is an argument to understand high-level types of misinformation across domains to interrogate the methods of active deception on part of the creators, as well as credulity or bias on part of those who believe misinformation. However, categories that are sufficiently high-level to apply across domains may not adequately capture the subtleties that are critical in understanding the context of misinformation.

3.2 Populism and Polarization

In the context of this work, the political environment in India in recent years is an essential part of our commentary, as the preliminary analysis of the misinformation made it clear. We discuss populism and polarization, and key concepts related to these, as they relate both broadly to the drivers of misinformation, and specifically to the information environment in India post-COVID.

Key Concepts Relevant to Online Communication: While there are varying definitions of populism itself [11, 28, 64], there are some widely recognized features of societies that move towards populist styles in mainstream politics and democracy. Populism often comes with some form of polarization, nativist majoritarianism, and an increasing centralization of leadership in a charismatic, authoritarian figure [58, 74, 80]. Such populism invariably accompanies an ideological wave in popular politics, there are cases from various political stripes, especially in recent decades, of populist, polarized politics [10, 39, 110].

The nativism that comes with populist polarization invariably deals with the creation of an 'enemy' – a group that is explicitly defined as inauthentic and lacking legitimate claim to the collective in resource and voice [74]. The enemy is constructed as an antagonist not only lacking in claim, by way of defining factors such as ethnicity, religion, political ideology, region etc [76], but also by extension also through imagined characteristics – such as subscription to practices that are antithetical to nativist interests or impure moral fiber and integrity[38].

An important part of setting up the political spectacle is through the use of pseudo events [107]. The idea of pseudo events, as rhetorical constructions rather than real events, are used in multiple contexts. But in the creation of a political spectacle, a pseudo-event serves the purpose of creating affect – thus jingoistic affect in cases such as a "surgical strike" against an antagonist, or a widely publicized "friendship day" to perform camaraderie may be examples. The nature of dominant political ideology plays a role in the enactment and effectiveness of the political spectacle. Work has shown that right-wing discourse is better suited for the nativist populist arguments of the kind that create political enemies[71]. The attention to misinformation as a means of organized broadcast communication grew with the increase in microblogging in the 2000s [65, 90]. This period also saw an increase in populist movements on line, which have frequently been spurred on by aggressive online following and engagement [19, 49].

The relationship between polarizing speech, misinformation, and online speech is related beyond the structural benefits afforded by unfiltered online media. Populist leaders and polarization have precisely emerged with a co-dependent relationship with declining faith in mainstream media [57] and a willingness among politically engaged citizens to turn to divisive, unverified media for their information needs [69]. The US 2016 election served as a watershed moment for the engagement of misinformation in politics, as a key leader encouraged the rejection of mainstream news in favour of information that aligned with a subset of peoples' beliefs [7]. The media landscape around the election showed that misinformation had consequences on polarization [50], but also in creating "political enemies" such as Muslims [44, 47] and Mexicans [42], often by specifically using pseudo-events, such as "wall building" [41].

Social Media and Polarization in India. The BJP government came to power in 2014 riding a wave of anti-incumbency, eschewing religion and instead campaigning on development as the primary electoral plank [84]. The campaign marked an important change in Indian political culture, in that its leader Narendra Modi avoided all contact with mainstream professional media, instead communicating almost exclusively through social media [16]. Five years later, for its second term, the electoral discourse had shifted distinctly to more engagement with religious appeal and a centralization of the campaign around the prime minister's image a protector and sentinel[54].

The campaign took place at a point when drop in media trust, particularly articulated by the right-wing in India [22] was already high, turning social media into a battleground for the enactment and engagement of political ideology . The divisive rhetoric of both the 2019 general elections and the state campaigns preceding it was largely played out on polarized social media campaigns [85], to a large extent driven by the massive online machinery of the ruling BJP which organized social media campaigns on various platforms at both the national and regional levels[97]. There was significant disinformation, not just by random actors but in an organized fashion by institutional parties through the campaign period [35], building on a grave recent history of WhatsApp based vigilantism [18, 75]. Prior work has also considered political misinformation and factchecking on WhatsApp [43, 91].

4 METHODOLOGY AND TAXONOMY

4.1 Data

Our corpus consists of 2632 fact-checked stories in English, Hindi, Bangla and Telugu for the period of Jan 1, 2020 to May 10, 2020. This corpus included every story in those dates from an archive maintained by Tattle Civic Technology (under ODBL license) [1] for the following Indian IFCN certified fact-checkers: AltNews [77], BoomLive [24], Indiatoday Fact Check [2], Webqoof [3], NewsMobile Fact Checker [4], Factly [68] and Factchecker [53]. All the stories coded are misinformation reported within India, by fact checkers.

First, we manually coded for duplicates within the dataset to remove identical misinformation in other languages. Although there is important information in this, that was not the focus of our work. There are also duplicates of the same story debunked by various factcheckers, which were also removed. There is some variation in the detail, style, and evidencing with which different factcheckers report stories, thus our coding is not based on titles and meta data, but on a full reading of every debunked account, and every associated misinformation instance. We then systematically coded 1173 unique misinformational stories for their thematic patterns and trigger cases.

Fact checking organisations with their limited resources and time makes choices based on virality, source and nature of the misinformation stories [77]. As our sample is limited to stories that have been debunked, we are restricted by what makes it to a factcheckers table. As a result, such factchecking underrepresents messages from encrypted platforms. This means misinformation from Facebook is over-represented as the third party fact-checking organisations have a tie up with Facebook to source potential misinformation, though Twitter stories also get fact-checked frequently since they are public and often receive attention. However these sampling conditions are acceptable for our sample since we primarily interrogate the public discourse around misinformation, for which stories that receive significant attention offer a reasonable barometer.

To build in an ontological approach to systematizing misinformation, we need parent categories that can be arranged around relationships with each other. For the purposes of this paper, we sought to understand how the themes of misinformation related to contemporary Indian society and politics. However, our classifications allowed for further forms of analysis. The dataset of 1173

stories were coded by three coders and the taxonomy for thematic patterns, trigger cases and style & substance were inductively produced in series of iterative coding.

4.2 Thematic Patterns

We build on past work on ontologies and taxonomies to build the thematic categories of study. Our goal here is to provide transparency to our process, so that the demerits and benefits of various approaches can be clear.

Our initial classification for a set of 147 COVID related misinformation stories was put into four categories: Alarmism, Culture, Cure, and Nature, based on a group discussion and affinity diagramming exercise on the thematic. After one iteration, we found that *Alarmism* had become a catch-all and did not offer enough nuanced meaning since much misinformation is inherently alarmist - using semantic techniques such as the use of statistics or shocking text to present information about a topic. Thus, our second categorization based on a sample of 243 COVID related stories were: Culture, Cure, Prevention& Treatment, Nature & the Environment, Casualty, Business & Economy, Government, and Doctored Statistics. Each story was only assigned to a single best-fitting category, though several tags were thereafter assigned to each story. Despite this expansion, overlapping remained a challenge since many misinformational stories can be thought of as equally relevant to multiple contextual categories.

Five researchers were involved the process of whiteboarding, iteration, and final coding. We refined our categories based on discussions among the authors. See Table 2 for the definitions of the thematic-categories used for this study. In this final iteration, we kept some of the codes and renamed or changed others. We retained *Culture* and renamed rest of the categories to allow a broader application. For example, *Cure, Prevention & Treatment* was renamed as *Remedy* as it better suited the notion of remedial action. Likewise, *Casualty* as *Adversity*, *Business & Economy* as *Transaction* and *Nature & Environment* as *Ecology*. The category *Politics & Government* was split into two to give a more focused understanding to the stories. At the outset, we note that categorization of this kind is a living project, that evolves to new equilibria over time. Our goal with the final thematic categories, defined in Table 2, was to move towards a generalisable taxonomy that could be used in other health or non-health related misinformation.

The coding scheme was tested by providing the three authors a random sample of 160 stories. The themes were discussed and explained with inclusion and exclusion cases. The inter-coder reliability score using Fleiss Kappa, scored 0.9148 on a scale ranging from -1 (complete disagreement) to +1 (complete agreement). We also ran the reliability test using Cohen's Kappa, where the average of pairwise inter-coder agreements gave a score of 0.9149. There was complete agreement between the three coders on 90.625% i.e on 145 of 160 samples coded. The 15 stories on which the coders disagreed, had one of the two issues: one, a less detailed report of the misinformation story by the fact-checking organisation or two, the stories had more than one variable factors that could be attributed to a single story.

4.3 Trigger Cases

The typology of trigger cases was initially developed by the authors in relation to major topical newsmaking events or groups of related events in the Indian social and political spectrum. While every piece of misinformation does not follow a trigger event, we hypothesized that there may be a relationship between key events of public interest and subsequent misinformation. The key topical events were identified using Twitter trending topics and spikes, for the study period, these were the Citizenship Amendment Act / National Registry of Citizens (CAA/NRC) policy, the subsequent student protests at the Jawaharlal Nehru University (JNU) and at Jamia Milia Islamia University

(Jamia), the subsequent riots in Delhi, the elections in Delhi, the deaths of actors Rishi Kapoor and Irrfan Khan, COVID-19, and the lynching of two travellers by a mob in the town of Palghar.

We clubbed closely related topical events, thus events related to anti-government protests and the following sectarian riots including *JNU Violence, Jamia Violence, Palghar lynching* and *Delhi Riots etc* to form *Law & Order*, the deaths of celebrities were categorized under Public Figure, and so on. The definitions for each of the trigger cases can be found in Table 3. These categories were apt to map the contours of misinformation in accordance to the key events and such categorization helps to approach the discourse in context of current events.

The coding scheme for this too was tested by providing the three authors a random sample of 160 stories. The trigger cases were discussed as per the key events for the sample period and defined for inclusions and exclusions. The inter-coder reliability score using Fleiss Kappa and Cohen's Kappa - where the average of pairwise inter-coder agreements - both gave a score of 0.9052 on a scale ranging from -1 (complete disagreement) to +1(complete agreement). There was agreement between the coders on 96.875% of the stories coded. The stories on which the coders disagreed, were discussed, and arbitrated for consensus coding.

4.4 Style and substance

Representative tags: Our dataset showed that COVID related misinformation was the single-largest category of all stories, 561 of 1173, which we manually annotated with representative tags. These tag annotations were used to develop word clouds and get a more nuanced understanding of content patterns. The tags were added based on a through reading of the false story. As guidelines, the three coders agreed to use descriptive tags and further create/develop them into umbrella terms as they repeated. For example, stories related to Muslims spreading COVID-19 by spitting on foods, would contain descriptive tags such as spit, lick, saliva, utensils and the umbrella term of contagion, which would typically reappear in other stories which may have claims of different forms of spread. In addition, such a story would also have tags about the cultural content, that of Muslims. At the end of each round of coding, one coder manually checked the tags to develop for synonymous words, singular-plural differences and spelling errors..

Media Format and Novelty: Misinformation stories are inter-textual and trans-medial [18] in nature. To get an understanding into stylistic patterns and nature of propagation we annotated the COVID-related misinformation stories for their media format and novelty. Media format consisted of - Audio, Video, Image or Text category. They were marked in reference to the fact-checked story, for their content type as shared on the social media platforms. Novelty was marked according to their content as reconfigured or fabricated. Reconfigured content is already existing and often true, but spun or presented falsely in a different setting with minor edits. Fabricated content is new and context-specific information. This terminology was adopted from Brennen et. al's study on COVID misinformation. [26]. We further employed two proportions Z-tests to analyse the nature of the media format(the mode of propagation) that is employed, and the novelty of misinformation stories used, to spread misinformation under affective and instrumental categories.

4.5 Political Tweets

Political propaganda is both well-organized, and often has systematic patterns of propagated bias and disinformation in India [87]. To understand potential overlap between politically motivated misinformation and social media activity, we analysed tweets of 7806 Indian politicians. Twitter has emerged as a major medium of political communication for senior and mid-level politicians in India. It allows rapid, widespread dissemination of content compared to other platforms like Facebook or WhatsApp that are leveraged for local propaganda or internal party communications. Twitter's

design features make it suitable to interact with strangers and post public facing information, unlike WhatsApp or Facebook that are used far more for personal interactions with friends and family. Moreover, Twitter posts, trending hashtags, and responses to them by key public figures are widely covered by mainstream media in India, with several channels running live commentary on tweets during major events, thereby increasing Twitter's reach well beyond its active users.

Lastly, Twitter's public API grants comprehensive access to a user's public content, in contrast to other social media platforms, making it a suitable lens into the performative and public aspects of political discourse of a given geography. In conclusion, although the Indian Twitter-sphere is a niche section of society with only about 30 million active users, it has evolved into the preferred means for public notifications, political commentary, and live responses to events in India for political figures, media personalities, and celebrities. These factors informed our choice to use Twitter data of politicians for this study. This list of Indian politicians was acquired from a previously published dataset [86].

We pulled more than 1.3 million tweets of 7806 politicians from major Indian parties who were active between Jan - April 2020 using Twitter's public API. The distribution for major political parties was as follows: BJP-3375, INC-2691, AAP-218, DMK-186, SP-176, AIADMK-122, BJD-86, NCP-80, TRS-74, CPIM-74, YSRCP-53. There were 108 Government handles too. These handles collectively posted 719K retweets and 608K original tweets.

We annotated hashtags for their cultural content, such as about Chinese, Muslims, Italians etc. The definition of cultural hashtags was derived form the thematic category 'Culture', as defined in Table 2. Consequently, all hashtags that related to religious, nationalistic or cultural events were tagged as cultural hashtags. We also included hashtags that referred to key persons that were at the center of controversies surrounding cultural topics, such as #ArrestArnabGoswami and #iSupportArnabGoswami relating to the Palghar lynching event. Furthermore, we classified the cultural hashtags as Muslim-related if they had a direct reference to an individual, religious figure or festival, or event relating to the Muslim community.

4.6 Sample limitations

An limitation of this work is that it is built on the stories factchecked by registered factcheckers, thus it is not representative of the entire scope of misinformation in the public domain. The categorization we present is indeed susceptible to human bias, which we recognize, and attempt to mitigate by making our data open, and our decisions transparent as documented here.

5 FINDINGS

As shown in Figure 1 COVID related misinformation has risen consistently since the end of January, 2020, when the news of Indian students in China were first breaking, but with dramatic pace since mid-March. This is timed alongside the Indian Prime Minister's first few national addresses on COVID, and the commencement of the national shutdown.

This finding aligns with the hypothesis that a major event is a driver of misinformation. There are two factors we can attribute to this. First, that the event generates interest and curiosity - this would be as true for COVID as it would for say a national sports event. The second possibility is that the event generates uncertainty - long attached in scholarship to the growth of rumors. This would indeed be true for COVID 19, arguably the single most disruptive global event in the last century, which has caused widespread panic in India, as in various parts of the world.

Fig. 1. Cumulative Weekly Growth in Covid-19 Related Misinformation(n=521)

5.1 Polarization and Misinformation

An analysis of the misinformation in the early part of 2020 allows some insight into the stage setting for the environment that would dominate post the discovery and spread of COVID-19 in India. An overwhelming majority of the misinformation was on highly polarized hot-button issues.
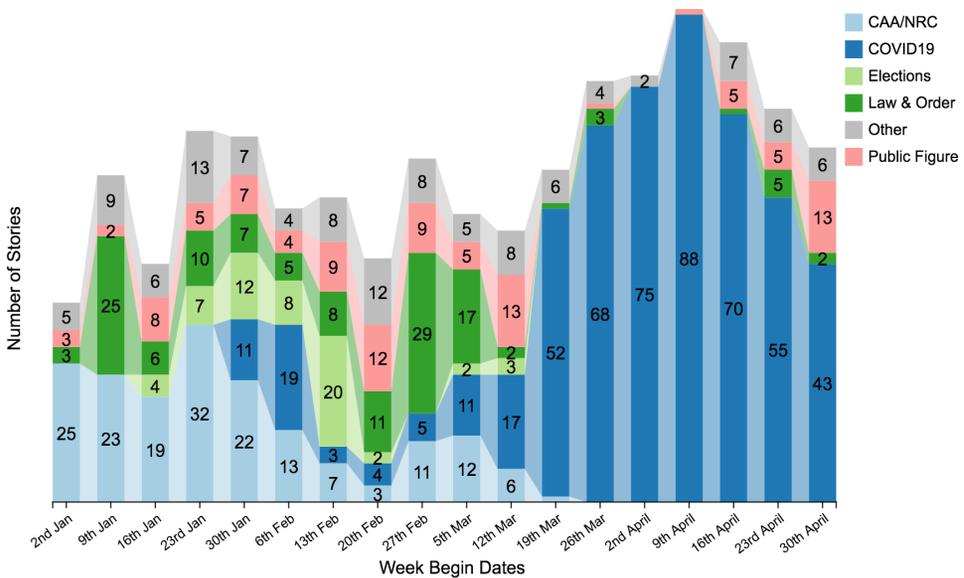

Fig. 2. Weekly Share of Trigger Cases in Misinformation Stories(n=1106)

A look at the trigger cases for misinformation in Figure 2 is useful in understanding the topical spread of misinformation, and the use of the 'political enemy' / 'polarization' framework. We see that in the early weeks of January CAA/NRC dominated the news, alongside stories related to Law & Order, which in this case were mostly related to student and citizen protests, and the subsequent rioting and police clashes, largely in Delhi. The line between pro- and anti-CAA/NRC positions were roughly drawn alongside whether one was pro- or anti-government, thus tugging at echo chambers or pre-existing dispositions to get buy-in from readers.

The stories on CAA/NRC as well as about Law & Order were largely misinformation about Indian liberals or minorities,particularly Muslims and the institutions typically associated with

Fig. 3. CAA Protests: Morphed Image Claims Shaheen Bagh Protestors were Paid Rs.500 per Day

progressive thought, such as the Jawaharlal Nehru University or the Jamia Milia Islamia University, as well as the citizen sit-in protests at the public park, Shaheen Bagh, a protester from where would go on to be among the Time top 100 most influential persons for 2020.[1] In the stories, emphasis was laid on portraying the students as 'anti-nationals' and the protestors as 'anti-Hindu.'

Figure 3 shows us an example of this trend. It depicts a story about women anti-CAA protesters at New Delhi being there for cash rewards. The women in the image are in Hijab, thus the attack is aimed at Muslims, and this particular story was circulated by the head of the BJP's IT Cell, Amit Malviya, one of the most important leaders of the party. The government's official line on the CAA has been that it is a patriotic law needed for national integration and border security, ergo opposition to it is anti-national. We find that the misinformation around CAA focused inordinately on Muslims and liberals and institutions associated with them.

Similarly, politicians used the Shaheen Bagh protests to attack their opponents during the Delhi election campaign. Figure 4 shows two tweets - by the Delhi state BJP handle and Dr. Harsh Vardhan, cabinet minister in the Modi government - that link the AAP leader with the Shaheen Bagh protesters. That association with the protests is projected as a negative value during an electoral campaign has similarities to the ways politicians in the United States were attacked by the right for affiliation with the Black Lives Matter movement. Essentially, not only were members of the Muslim community vilified and painted as an anti-national group through targeted misinformation campaigns, the same was weaponized to polarize the election campaign along religious lines.

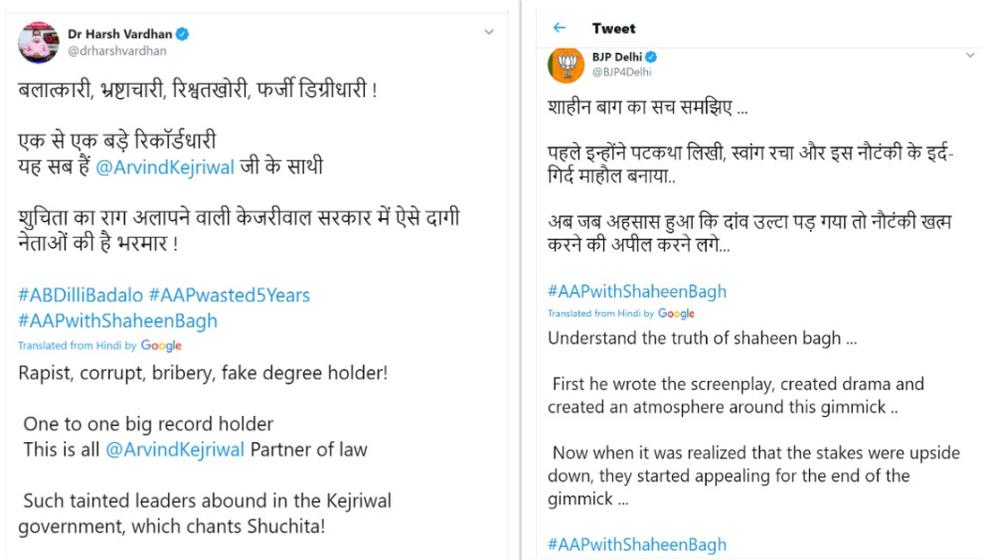[1]https://www.bbc.com/news/world-asia-india-54276129

Fig. 4. Tweets Posted by Twitter Handles of the Ruling BJP Associating the Aam Admi Party with the Shaheenbagh Protests

While we cannot claim a clear correlation between the misinformation stories and online political campaigns, they present a potent combination for social media propagandists. Used together, they can be leveraged to attack electoral opponents by associating them with groups that are deemed illegitimate in the majoritarian psyche.

5.2 Affect and Instrumentality

We grouped the misinformation stories into two buckets, broadly on what the appeal of the thematic category as shown in Figure 5. The first bucket is *instrumental*. This bucket includes stories on *Remedy*, *Transactions*, and *Ecology*. Each of these categories is instrumental, in that the they deign to help people make concrete decisions about the subject of misinformation - such as what financial decisions to take, what may be the ecological drivers of the disease, or what remedies one should invest in. For example, stories related to cures of various diseases such as Dengue, COVID & Nipah, natural & man-made disasters such as Australia Bushfires, Earthquakes, stories about liquidity crises at banks etc all fall into the bucket of Instrumental, since they deal with instrumental facts, albeit untrue. While all misinformation may be intended to create fear, the goal of these stories are generally not to engineer extreme emotion or apportion blame on an individual or group, per se.

The second bucket is *affective*, including the categories *Adversity*, *Culture*, *Politics* and *Government*. While the stories on *Government* can sometimes be "instrumental" (false circulars, for instance), the stories here generally tend to be affective, in that they primarily seek emotional response rather than propose offer steps ahead. These may be whom to blame for being impacted by adversity, or thank for dodging it, who to applaud for their dealing with the situation in a certain way, or what kinds of conspiracies one should watch for about past or future possibilities.

For example, misinformation stories related to government-sanctioned police brutality on various anti-CAA protesters, COVID lockdown violators & Delhi riot victims, all aim to engineer

disgust towards individuals or groups such as police or protesters in the reader. Similarly, misinformation about Chinese or Muslim conspiracies to spread the disease are examples of these. Such stories invariably have an object - either protagonist or antagonist, who gets credit for the larger phenomenon such as deaths, disease, cures etc.

We see in Figure 5, the word clouds of representative tags for stories classified as instrumental or affective – the instrumental stories tend to have a much higher prevalence of remedy-related stories, while the those classified as affective tend to inordinately be culture-related.

Misinformation tags for Instrumental
n= 129

Misinformation tags for Affective
n= 427

Fig. 5. Word Clouds for Instrumentality and Affect

Fig. 6. A Comparative Visualisation of Affective and Instrumental Categories(n=1087)

As we see in the Figure 6, there are more stories that attempt to engineer affect instrumental reactions, but that there is a significant change in early April towards more affective stories. One trend is the gradual plateauing of remedy-related stories. While a number of misinformational stories about home remedies, Ayurvedic or homeopathic treatments were circulating early in the COVID news cycle, these gradually dropped off, as it became increasingly clear that these did not cure or prevent the disease both from experience as well as from major world leaders (including Modi) stating unequivocally that there was no cure for the disease.

Figure 7 shows that the most significant change in the composition of COVID-related misinformational stories is the cultural turn we see early April. Cultural stories are typically about a

cultural group or artifact in relation to the condition. Early COVID-related stories logged under culture tended to be about China or Chinese people. Stories included references to eating and cultural habits, blaming these for the virus, false or doctored images of public spaces, and conspiracy theories about the Chinese government and it's role in COVID. During this period, there were also culture-themed misinformation which aimed at a positive spin to suggest that cultural practices attributed to Hindus, such as vegetarianism, served as a defence against the disease, which only affected meat-eaters.
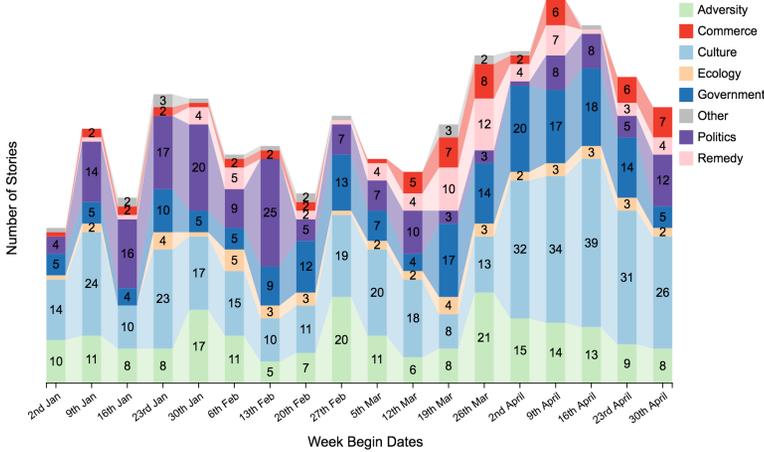
Fig. 7. Weekly Distribution of Misinformation According to Categories(n=1106)

As shown in Figure 6, the affective turn can be seen as a moment in the crisis when the narrative arc moves from action to blame, as the public discourse becomes increasingly clear that there is neither a cure for COVID, nor any means of prevention.
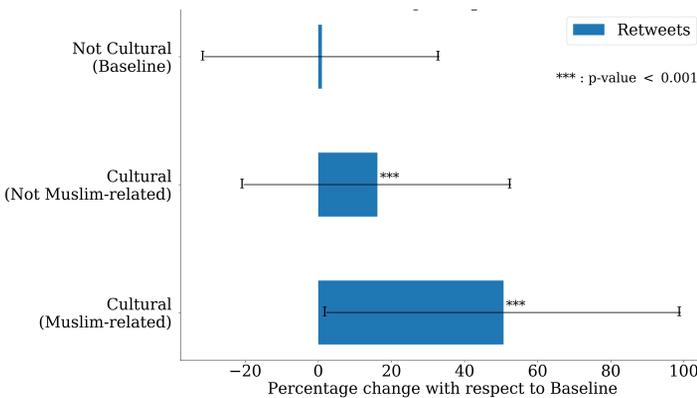

Fig. 8. Affective Value of Muslim-related and Cultural Tweets of Politicians during the Study Period

This pattern of high affective value for stories relating to the culture and the Muslim community is visible on Twitter as well. The importance of this is emphasized by the fact that the ecosystem

of hate was already in place. This highlights how an existing divisive and explosive rhetoric can easily find its way into the sensemaking process during a flood of misinformation in a crisis.

From our the dataset of political tweets, we setup the following experiment to understand if tweets posted by politicians about the Muslim-community received higher traction online. We labelled a tweet as 'Muslim-related' if it contained at least one 'Muslim-related' hashtag, based on the annotations in Sec. 4.5. The tweets that contained other 'cultural' hashtags were labelled as 'cultural' and the rest of the tweets were labelled 'non-cultural'. We gauged the effect of these categories on retweets using a mixed-effect model in R. We controlled for the week and the user who posted the tweets (random effects) and category, party, number of followers count of the user (static effects). Figure 8 shows the results of the regression. Taking the 'Non-Cultural' tweets as baseline, we found that cultural tweets yielded at least 16 percent more retweets (p-value<0.001). Muslim-related tweets produced at least 50 percent more retweets than Other tweets (p-value<0.001), considering the entire 4-month period.

5.3 The Political Enemy

Towards the end of March, however, COVID-19 had emerged as the dominant trigger case in misinformation. While the Prime Minister's initial speech and subsequent lockdown were overall drivers of misinformation, the single event that caused the biggest jump in stories as seen in Figure 9 was the Nizamuddin-Markaz incident. The figure shows the prominent narratives of cultural misinformation through the early part of 2020. We labelled cultural stories as 'Muslim-related' if it was targeting the identity, actions and practices of the Muslim community. We separated them as they formed the largest majority of the cultural stories and also to provided a nuance into the kind of attacks on the Muslims across the various trigger cases.
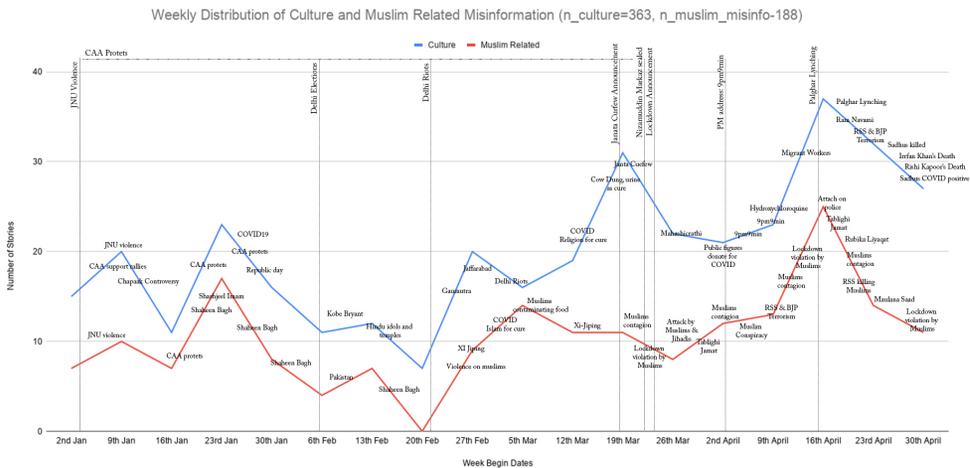

Fig. 9. Weekly Distribution of Culture and Muslim related Misinformation (n_culture =363 n_muslim= 188)

The Tablighi Jamaat story referred to an incident during which Islamic religious scholars from various parts of the world came to a conference at Nizamuddin Markaz in Delhi in March 2020. The conference ended up becoming a hotspot for transmission of COVID-19 not only in Delhi, but subsequently through people who carried it back to their home states after the conference throughout India.

The story set off a flurry of anti-Muslim content. By the time news of the incident broke, India was already a week into the complete lockdown. The initial fortnight of the lockdown had the high spikes of misinformation content, but at that point, there was not an inordinate amount of anti-Muslim content. However, after the first week of April, when mainstream news extensively covered the Tablighi Jamaat case, the misinformation landscape similarly changed.
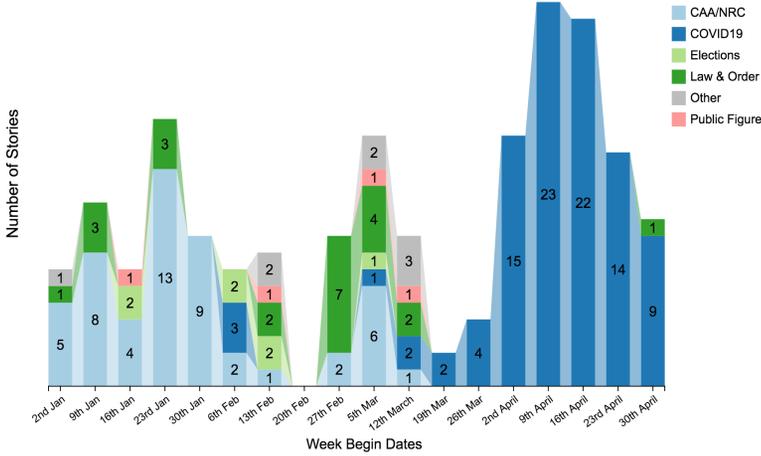

Fig. 10. Weekly Distribution of Muslim Related Misinformation According to Trigger Cases(n=188)

The consequent recurring themes in the misinformational stories were of Muslims as carriers of the virus, of intentional, malicious spreaders of the virus through spitting or licking food or utensils that will be used by others. As shown in Figure 10, the sheer number of Muslim-related stories was one of the main-drivers of misinformation in April. A look at wordclouds of tags for the stories for three periods between March and April, as shown in Figure 11, demonstrates how dramatically the discourse turned against Muslims by the second week of April.

| 14th Mar - 23rd Mar | 24th Mar - 2nd Apr | 3rd Apr - 12th AprMar |
| N= 67 | N = 104 | N= 118 |

Fig. 11. Sample of representative tags for misinformation in three 10-day periods – first 10 days, leading up to the Janata Curfew and ending at the evacuation of the Nizamuddin Markaz on Mar 23. The second period starts with the announcement of the lockdown. The third period starts with PM Narendra Modi's national address for the 9 PM 9 Minute address and ends on April 12.

The strength of the discourse in constructing Muslims as a *political enemy* is seen in the way that a specific incident, the Palghar lynching, saw a slew of stories claiming that Muslim mobs had

Fig. 12. Tweets Posted by BJP Politicians about the Tablighi Community

lynched Hindu ascetics in a small town north of Mumbai. The story was false, the incident had no Muslims involved, and the two victims were allegedly mistaken for thieves.

The misinformation was further buoyed when mainstream television channels started to repeat the same story, some channels openly calling all Muslims anti-national. The Muslim-related misinformation following Tablighi Jamaat also led to boycotts of Muslim fruit vendors, both because of misinformation around Muslims licking foods they were selling, but also because of general calls to boycott Muslim businesses, for which calls had started well before the COVID-19 crisis. Several authentic videos were later circulated showing Muslim food vendors being accosted on video by mobs, and being asked their names to show if they were Muslim later emerged. These were similar to other videos that emerged earlier in the year, during the CAA protests and subsequent riots in which Muslim individuals were cornered and attacked by Hindu mobs.

The same pattern was seen in tweets posted by politicians of the ruling party. Figure 12 shows tweets by popular public figures Rohit Chahal and Babita Phogat (thus not anonymized). The translations of those tweets are as follows (clockwise from top): Babita Phogat's tweet on April 15 reads 'Coronavirus is India's second biggest problem, the first is the illiterate Jamaati'; BJP leader Rohit Chahal's tweet on the same day says that 'Police officers and doctor who went to visit Moradabad for testing attacked by members of 'peaceful community' (implying Hindus); his tweet on April 3 reads 'Tablighis' are spitting, seculars are licking'. While Phogat attacks the members of the Tablighi sect as illiterate, Chahal claims Muslims have attacked doctors and police in Moradabad. In his earlier tweet, he combines two 'political enemies' - Muslims and the 'secular' (anti-Hindutva liberals) - by implying that Tablighi community members are spreading the virus and liberals are aiding them. Phogat's tweet was quantifiably polarizing, receiving widespread criticism but also resulting in the hashtag #iSUpportBabitaPhogat trending on Indian Twitter.

5.4 Style and Substance

There are both positive and negative misinformation stories, and the style in the two is different. Figure 13 below shows two stories, appearing around the same time, with different motivations and different styles. In the first, a recently shot video of a woman presenting a scientific/rational explanation for Prime Minister Narendra Modi's request to citizens to go to their verandahs and clap at 5 PM for 5 minutes on March 22 to recognize health workers.
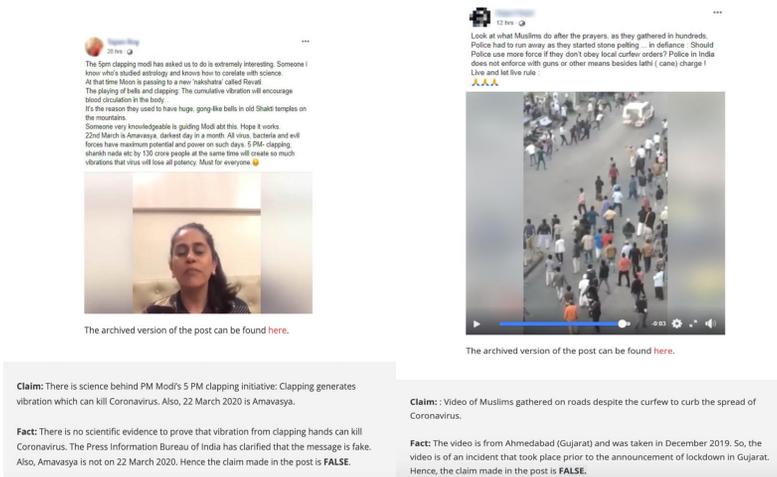
The archived version of the post can be found here.

The archived version of the post can be found here.

Claim: There is science behind PM Modi's 5 PM clapping initiative: Clapping generates vibration which can kill Coronavirus. Also, 22 March 2020 is Amavasya.

Fact: There is no scientific evidence to prove that vibration from clapping hands can kill Coronavirus. The Press Information Bureau of India has clarified that the message is fake. Also, Amavasya is not on 22 March 2020. Hence the claim made in the post is **FALSE**.

Claim: : Video of Muslims gathered on roads despite the curfew to curb the spread of Coronavirus.

Fact: The video is from Ahmedabad (Gujarat) and was taken in December 2019. So, the video is of an incident that took place prior to the announcement of lockdown in Gujarat. Hence, the claim made in the post is **FALSE**.

Fig. 13. Stories with Positive and Negative Undertones

While Mr. Modi's appeal to citizens was part of a public awareness campaign, on the heels of similar public recognition initiatives in Spain and Italy, some of his supporters presented an enlightened, mystic motive in his move. One such video, seen here, is a woman noting how the clapping for a certain amount of time will kill Coronavirus related germs, and that it was in fact a masterstroke from the Prime Minister. The message is presented with plenty of details so that it appears convincing to the recipient.

In contrast, the negative message in the same panel is of a video of Muslim men in a riotous situation with the claim that this is an attack on police after Friday prayers. Unlike the video of the woman discussing the clapping, this is a re-used video from a different context. The tone here is aggressive and meant to alarm the viewer. We find pattern of differences between the thematic categories of misinformation and the kinds of content used to mislead the leader in those.
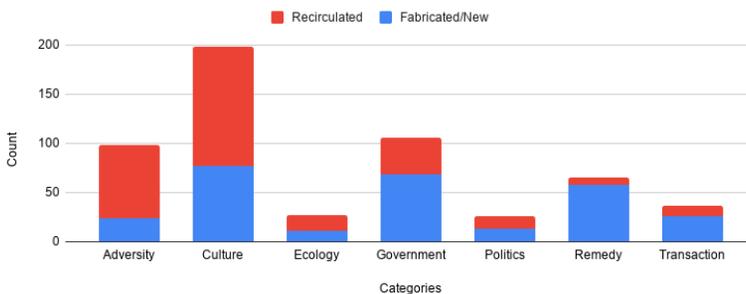

Fig. 14. Distribution of the Categories of Covid-19 Related Misinformation Stories Based on their Novelty (n=557)

This categorization of types of misinformation based on the kinds of content [26] useful in analysis of different narrative approaches. We used the categorization from (see in Figure 5) above that two kinds of content are strikingly different.
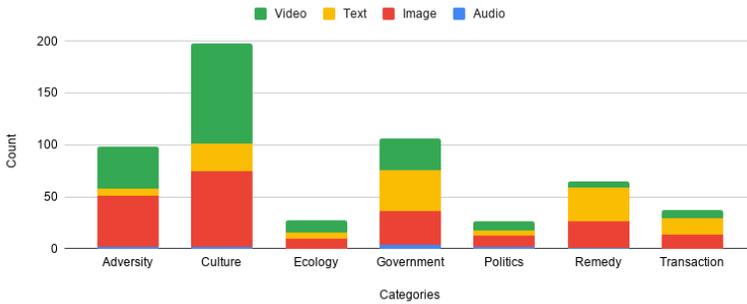
Fig. 15. Distribution of the Categories of Misinformation According to the Mode of Propagation for Covid-19 Stories (n=557)

To validate this observed difference, we setup the following statistical experiments. We employed z-test for proportions to analyze (1) the nature of the mode used in propagating misinformation for the *affective* and *instrumental* categories, and (2) the novelty of misinformation stories in the *affective* and the *instrumental* categories. For the first test, the modes of propagation comprising Audio, Images and Video were put into one group – 'Multimedia', and 'Text' formed the second group. The hypotheses have been mentioned in table 1.

We observed that misinformation relating to the *instrumental* category tends to have more text than *affective* category (z=5.53, p<0.01), ostensibly since text offers greater specificity and can be more convincing. In contrast, *affective* messages are more likely to have visual and multi-media material than *instrumental* messages (z=5.53, p<0.01). We can approach this finding from the narrative hook of stories in these categories, which is to rouse emotion, either strong feelings towards a certain culture, or fear of a certain kind of adversity - such as a graphic image of suffering.

Similarly, fabricated or new misinformation was more likely to be used to spread misinformation falling in the *instrumental* category than *affective* misinformation (z=6.19, p<0.01), since such content had to be invented as cures or prevention for COVID. On the other hand, *affective* messages are more likely to be recirculated material (z=6.19, p<0.01). A probable cause can be that the affect of disgust or fear may be better engineered by using viral content from a different context, assuming these had already succeeded in the past to create that affect.

6 DISCUSSION

The construction and spread of misinformation offers us unique insights into the fears, aspirations, and prejudices of a society. The emergence of Muslims at the center of misinformation around a health-related crisis offers a chilling reminder of how political symbolism can spread dangerously to other spaces in society.

6.1 Data Repositories and its Management

Our work has resulted in a manually annotated dataset of 1173 misinformation instances of four languages. To the knowledge of the authors this is the first large-scale publicly available annotated misinformation dataset and can open many new avenues for studying information disorders and other social media studies.

The approach to categorization we use here highlights the complexity, but also the opportunities with human-led categorization of information. Although a large number of studies of misinformation have focused on machine learning techniques which allow for different forms of objectivity,

but are therefore also unable to capture much of the nuance with politically-charged speech. Misinformation, for its end goal of getting a reader to react, needs to have an affective impact. We show here that the creators of misinformation, at least that which gets wide enough coverage to get fact-checked, appeal to the anxieties, prejudices, and uncertainties in the minds of the consumers of their content. The ontological approach to categorisation helps make sense of the overall ideas under which individual messaging is nested. This in turn also helps observe temporal patterns - to see what categories appeal to people at different times in the news cycle.

Some of the categories of news we arrived at may be valuable in the sensemaking process for the information environment in other regions, while there will be new categories that are contextually specific to those new settings. Technology may offer means to arrive at some of these categories through training modules to build classifiers or find patterns of recurrent terms, but a corresponding human-based approach allows unique insight into the social questions that drive misinformation. Here, our use of the political tweets strengthens the quality of analysis. We know now that politicians actively benefit, as measured in retweets, from talking about Muslims. In studies of this kind, the way categories are named, what data items will be included or excluded from those categories are rife with their politics It is critical that researchers keep an eye on what the ontologies we build enable – which is the analyses of what these mean in our worlds.

This work also highlights some of the challenges with presenting research on misinformation as representative of a dominant discourse. Our universe of misinformation is restricted by what gets reported. There is some value in this, in that one can assume what gets reported likely gets more seen. But this research also makes clear not only how difficult it is to trace the insidious layer of invisible misinformation. Readers can surmise how much more problematic that messaging is, given that what is already public and often shared by people in public life is already deeply antithetical to civil discourse. Another challenge we have found in this work is that misinformation stories are often not amenable to slotting within a clean ontological structures. We use representative tags to address this complexity, however this limits us from characterising the whole discourse.

While this work can make progress towards transferable taxonomies, that was not our goal, a priori. We set out to study a particular sociological phenomenon, and what we have presented here is an attempt to be methodologically sound in that endeavor. Consequently, our work may indeed be biased by our attempt to make sense of the social consequences of misinformation. It does however raise the question of whether a context-indifferent taxonomy of misinformation is possible, or desirable.

There are other data specific problems – the integration and interoperability, of data from multiple sources, including duplicate detection and management, and reconciliation with data that use different ontologies. In addition to using this variety of work for improving automated annotation (for which an imperative is for researchers to open up their data), possibilities for the future include enabling more complex search and filter mechanisms beyond term matching. Misinformation research is a conversation, rather than a one-time analysis.

Finally, this work shows how the type of textual content, as well as the use of refurbished content are not only important components of the topical nature of misinformation, but can also be valuable in the work of fact-checking and categorizing misinformation.

6.2 Social Media and Public Discourse

Past work on polarization and the construction of political enemies offers a crucial framing for our examination of misinformation in India. Social media has played a central role in facilitating anxiety and hatred in an intensely volatile environment. The impact of what happens on social media has already been seen to spread beyond online spaces. The beatings of Muslim fruit and vegetable vendors, thought of as COVID-spreaders, by mobs shows us how the online misinformation quickly

has consequences for some of the most vulnerable Indians. The psychological wounds of constant vilification enabled by misinformation have potentially irreversible, long term consequences.

The hysteria on social media around the CAA/NRC and riots in early 2020 set the stage for the vilification of Muslims post the Tablighi Jamaat issue. However, the Tablighi Jamaat issue is also a window into how a topical event that speaks to an existential anxiety can be manipulated to polarize. The vilification of Muslims was preceded by that of the Chinese. An instrumental/affective approach to understanding misinformation allows us a means of thinking about whether people are seeking a solution, or a source of emotional reinforcement - such as someone to blame. This indeed is true not just for misinformation, but for our overall media environment during times of increased polarization.

This paper also shows why greater engagement with other forms of research is useful in understanding misinformation. Our examination of political data was crucial, not just in mapping polarization and attitudes towards Muslims, but also in using the terms, titles of stories to find which mainstream politicians had engaged in falsehoods. Similarly, the literature on trust, and peoples' engagement with mainstream media discourse is helpful in understanding the roots and persistence of misinformation. While mainstream media's complicity in creating and fanning bias has been widely discussed in the Indian context, our work has shown their role in the effects of misinformation, sometimes implicitly as with the fanning of communal passions over the Palghar lynchings case, or other times explicitly, as with television-reported stories on home remedies for COVID-19.

COVID-19 has been an existential crisis of unprecedented scale. But the crisis also alerts us to ways that we need to be additionally vigilant with the news environment in such times. The political spectacle enabled by the crisis is a warning for India and beyond, as we see the intersection of pre-existing problems, including racial and ethnic prejudice, economic injustice, bring up forms of social schism that can only be worsened by a media environment that seems determined to fan, rather than douse flare-ups. As we look to a potentially bleak future of more uncertainty, it is essential that the media and citizenry be mindful of the complicity they have when they don't question their assumptions, or challenge those that are harmful.

7 CONCLUSION

Researching misinformation when one is part of the cultural context can be a source of constant triggers, since one's own identity is enmeshed in the misinformation discourse and what it represents. This work was often difficult for some of us, dealing with our own identities as targets of vicious misinformation. This is distressing both for the graphic content and its impact at the moment of engagement, but also because many artifacts are indiciative of how some of our fellow citizens may see us.

There is much conversation right now on machine learning and fairness, as well as on the information environments it creates and recreates. While a large amount of contemporary work on misinformation is automated or semi-supervised, our work shows that misinformation is powered by innuendo, and its true impact is understood as part of the larger social environment it inhabits. Here, the value of human annotation in getting at the deeper meaning of what is being said is critical.

The ecosystem of hate that has been weaponized in India exists elsewhere in the world as well. The principal takeaway from our paper is that when the dominant or populist public discourse creates public enemies, in the form of certain populations or ideas, as inimical to the common good. These become the 'usual suspects' for sensemaking in any crisis. There no doubt are malicious agents trying to actively pin a crisis on such an enemy, and social media allows for this through organized trolling or campaigning. But as we see through the trends in affective and instrumental

misinformation in this work, a point of equally important concern is the muddied information environment itself, and how citizens seeking to cope may be habituated to turn to rumors and hate speech at these moments.

8 ACKNOWLEDGEMENTS

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A TABLES

Test 1		
	The proportion of affective (group 1) and instrumental (group 2) stories employing multimedia	The proportion of affective (group 1) and instrumental (group 2) stories employing text
Null Hypothesis	p1=p2	p1=p2
Alternate Hypothesis	p1>p2	p2>p1
Test 2		
	The proportion of affective (group 1) and instrumental (group 2) stories using fabricated or new information	The proportion of affective (group 1) and instrumental (group 2) stories using recirculated messages
Null Hypothesis	p1=p2	p1=p2
Alternate Hypothesis	p2>p1	p1>p2

Table 1. Hypotheses to test variation of mode of propagation and novelty of information between Affective and Instrumental stories

Category	Definition
Adversity	• Stories about the physical and emotional suffering of individuals, including illnesses, deaths, suicides etc. • Stories based on graphic, macabre pictures or videos of individuals suffering • Stories about physical assault including sexual abuse and other crimes prohibited under the Indian Penal Code • Stories about the usage of weaponry to propagate violence and suffering, including police brutality
Culture	• Stories with socio-cultural references including references to the religion, ethnicity, caste and class of an individual • Stories about public figures such as mainstream celebrities, influencers and related popular cultural references • Stories about assault on religious, ethnic or social groups • Stories about emblems of national importance that foster emotional response, such as the national flag
Government	• Stories involving the actions undertaken and the everyday proceedings of public institutions such as the police, the judiciary, the army etc. • Stories about advisories, bills, acts and ordinances by the various government entities Business persons, Ambassadors etc.
Politics	• Stories about the activities of various political actors such as parties and politicians • Stories about political events such as elections
Commerce	• Stories about the socio-economic impact of public and private businesses including mergers, scams and shutdowns • Stories about the impact of trigger cases on businesses including panic buying, shoplifting and hoarding
Remedy	• Stories regarding mainstream or alternate remedies to virus outbreaks and natural disasters • Stories about home remedies, vaccines, medical practices such as Homeopathy
Ecology	• Stories concerning the flora and the fauna and their biophysical environment

Table 2. Typological Definitions of Chosen Thematic Categories

Case	Definition
CAA/NRC: Consists of all the misinformation stories where the Citizenship Amendment Act, 2019 (CAA) and the National Register of Citizens (NRC) were the subject of the story.	Includes: • Public reaction to the Act, including the responses of the opposition parties • The administrative response to the public outcry, including the responses of the party in power • The response of public and private institutions to the Act or the opposing parties
COVID19: Consists of all the misinformation stories where Covid-19 was the subject of the discourse.	Includes: • Responses of the various administrative units, including the state and the central government, to the outbreak • Individual responses to the virus, including financial and personal decisions • The response of concerned stakeholders such as the police, the health-workers etc to the virus
Elections: Consists of misinformation stories where the central, the state and local elections are the subject.	Includes: • Stories concerning the institutions involved in electoral process • Stories about politicians and political groups • Stories about the voting populace
Law & Order: Consists of stories where law and order or a lack thereof is the primary subject of the misinformation stories.	Includes: • Instances of the violation of the Indian Penal Code • Instances of university violence, terrorism, civil offenses, financial frauds, scams etc. Excludes: • Misinformation stories concerning the CAA/NRC and COVID-19
Public Figure: Consists of the misinformation stories where a public figure is the subject.	Includes: • Popular national and international celebrities and influencers • Influential political figures and world leaders • Influential national and international citizens such as Businesspersons, Ambassadors etc.

Table 3. Typological Definitions of Trigger Cases