NATO OTAN

S&T organization

Being There: Content, Cognition and Strategic Competition

Arild Bergh
Norwegian Defence Research Establishment
Kjeller
NORWAY

arild.bergh@ffi.no

ABSTRACT

The notion of Cognitive Warfare (CogWar) reflects a newly heightened sensitivity to an age-old issue, the manipulation of (and implied changes to) others' actions through the mind rather than the body or the physical environment. A key element of the CogWar model that emerged from HFM ET-356 is sensemaking [1] p. 34. However, what constitutes sensemaking? The starting point, the grist to the mill so to say, is information that is cognitively processed. This applies whether information emerges from personal experiences or as a separate information entity, such as a TV programme. In terms of online CogWar efforts, information equals content (for instance a long blog article or a short news snippet on Twitter), as well as reactions to that content.

In the current information environment, the Internet, and social media in particular, stands out as the core delivery mechanism for information. Without this, the states that NATO has called out as representing a threat to democracies would not have such extensive reach. A lot of the research and discussions related to online disinformation focuses on the mechanics of the socio-technical system that constitutes social media, or on quantitative measures such as the number of times a tweet was shared. In terms of how to counter such manipulation, states' responses are often focused on fact checking and legal measures or pressure on social media platforms to remove false content. However, these reactive responses do little to change the narratives that emerge from malign content. These narratives that "put things in their place according to our experience and then tell us what to do" [2] p. 13. have been recognised as a vital "battleground" in terms of shaping perceptions [3] and hence able to influence sensemaking.

Recent fieldwork by the author in Okinawa prefecture in Japan, a highly sensitive location in the East China Sea with a large US military presence, found that Google searches were a key method for information gathering when locals tried to make sense of what was going on in their area. Surveys related to the recent Covid-19 pandemic in Norway, showed that in times of crises people used considerable time obtaining information at the start of the crisis [4]. Such information gathering can thus be susceptible to the absence of relevant information by authorities in democratic countries. The importance of "being present" with content was demonstrated by research that tested online searches on topics that are sensitive to the Chinese Communist Party (CCP). Performing basic, value neutral Google and Bing news searches on terms like "Xinjiang" often returned pro-CCP content in or near the top [5]. The CCP spends considerable resources on creating and then sharing content through other countries' news portals and newspapers [6], something that will influence search results. The role of content creation before and during a crisis thus requires a better understanding of potential attackers working methods to improve CogWar defences. In a CogWar context one may say that content is the ammunition and sensemaking is the target. This paper will use data from fieldwork in Japan to examine the differences between the relatively hands-off, unrestricted approach of autocratic actors' influence operations and the cautious approach of democracies in terms of content creation. The paper will suggest some possibilities when going forward for democracies to level the playing field in terms of content in online media. The paper will also discuss the importance of pre-emptive content creation and protection, just as one would stock up on ammunition for a conflict.

1.0 INTRODUCTION[1]

Information manipulation, influence operations, information warfare, foreign influence and malign information. The terms to discuss coordinated efforts that use a constant online flow of information to reach and affect social media users in democracies are many. The shared, underlying issue however, is the worry about how citizens in democracies, including the armed forces, can be manipulated in ways that are detrimental to democracies through openly available media. This has been seen in recent elections, during the Covid-19 crisis and in connection with armed conflict in other parts of the world.

This paper will examine the problems democratic countries face in terms of being present in this information battle, in particular related to the task of creating content that represent democratic values. First content, cognition, and strategic competition will be defined. Results from fieldwork in Okinawa that looked at sensitive issues and the availability of relevant content will be examined. An in-depth discussion will examine how disinformation content relies on absence of relevant content that can counter disinformation before making a suggestion for how additional content can be created through a whole of society approach.

1.1 Defining the Three Cs

Technological changes not only bring with them new ways of working, but also new ways of perceiving and interpreting what existed long before the technological change occurred. Information technology, which speeds up events while reducing the importance of time and place, has altered the way in which we understand many things. This is the case with the three C's that will be discussed in this paper: Content, Cognition and (strategic) Competition.

In the context of this paper, the first C, content, refers to information that has been digitised. Back in the 1990s, the Internet was often referred to as the Information Superhighway, the Infobahn or the Infostrada. For the novelty of the early Internet was that information that previously had been attached to, and thus was indistinguishable from, a physical artifact, such as a newspaper or a TV set, suddenly could be accessed from many different devices. Information was thus freed from place and time restrictions of singular physical manifestations. Later, social media emerged. Social media were a part of the Information Superhighway, but more like custom built racetracks, simpler and faster to use than random websites, but locking you in to their little part of the Internet.

In the process of going from the Internet of open standards to the convenience of mutually incompatible social media there was also a shift in how one perceived information. In the age of social media, one started thinking of information as "content". This implies, quite accurately, that social media are containers. As containers without content are redundant, social media platforms always focused on content to attract users. In this context, content is therefore seen as easily distributable, self-contained nuggets of digitised information. The actual topic can be anything from cat pictures [7] to fake audio clips of politicians generated by artificial intelligence tools [8].

The second C discussed here is cognition, which is also a core part of this conference's title. The basic definition of cognition is that this is the mental processes that relate to developing knowledge and understanding by thinking, experiencing and sensing. In the recently emerged concept of cognitive warfare the importance of such human information processing, and the potential for manipulating it, is acknowledged [1]. However, it is important that this relatively new term does not blind us to the fact that the manipulation of human cognitive faculties in a conflict, to achieve gains for the manipulator, has been part of warfare for thousands of years [9].

[1] Thanks to Professor Maiko Ichihara and Ryohei Suzuki at Hitotsubashi University and Yuko Honda for their generous collaboration during our fieldwork.

This paper concerns itself with a particular cognitive activity, namely sensemaking, a key aspect of the cognitive warfare model developed by HFM-365 [1] p. 8-2. This term refers to the human activity of trying to understand the world so that what we perceive seems reasonable, and we can comprehend it. The colloquial terms "it doesn't make sense" is often used to indicate a situation where the available information does not adequately explain something that is happening from a particular person's point of view. For instance, reading online news has been shown to be a part of many young people's sensemaking activities [10] p. 69.

The third C in the title of this paper, competition, or more specifically strategic competition, refers to how western democracies now perceive their relationships and interactions with several non-democratic countries, in particular China. Although this conference is convened to discuss how to mitigate "cognitive warfare", this term is too limited to capture the broad range of activities that Russia, China and other threat actors engage in on a continuous basis. There are numerous ongoing discussions about this topic. Going into detail on this is beyond the scope of this paper, instead it will adhere to this summary from a Rand report: "Strategic competition is fundamentally a long game between revisionist powers and those that want to preserve the status quo of the current international order" [11] p. vi.

1.2 Connecting the Cs

What then is the relationship between content, cognition and strategic competition? Firstly, digital content that is not processed by humans is nothing more than wasted electricity: lit up pixels on a screen or magnetic charges on a memory chip. Content becomes content when it passes through human cognition. When topics and properties of digital content is coordinated and aimed at particular people or groups of people to try to affect their sensemaking activities, we can consider it an effort to influence people, i.e. an influence operation.

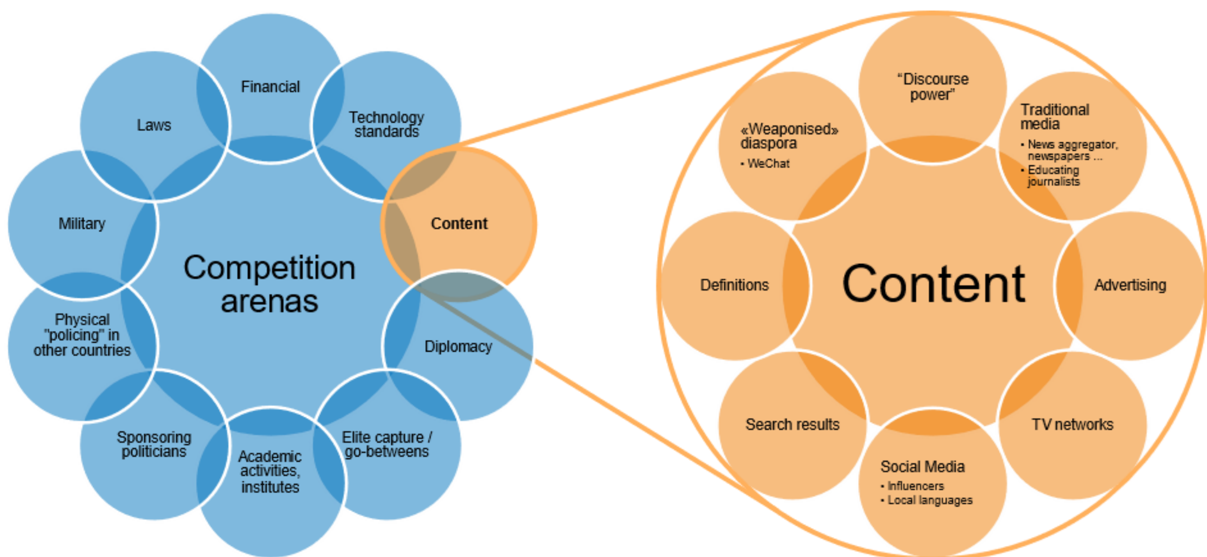

Figure 1. A summary of typical arenas for strategic competition with China, with details of content related efforts.

Such influence efforts are a core part of the revisionist powers' long game of strategic competition against democracies. It is what connects content and cognition with the (strategic) competition. The competition itself is fought in many arenas, as illustrated in Figure 1, with many different tools, from civic exchanges, to armed skirmishes. This paper looks at the information focused activities within strategic competition, which uses a range of activities, from overt advertising that promote tourism and a positive image of a country, to

covert use of fake social media accounts to spread rumours. EU has termed such influence efforts *Foreign Information Manipulation & Interference*, FIMI for short [12]. Throughout this paper FIMI will be used when discussing the influence efforts that used in the strategic competition discussed here.

1.3 Scope of the Paper

The topics explored above, in particular content, are often discussed in relation to formal communications activities, be it commercial entities working with marketing or NATO staff handling strategic communications. However, the focus for this paper is the role of digital content in sensemaking processes in areas that affect strategic competition. It will not go into detail of current communication efforts related to FIMI. It will instead examine how gaps in available content can create problems that lead to a lack of local support for government policies. The relationship between such gaps and the Internet's underlying automation technologies and the differences between how democracies and FIMI actors operate is explored before making some tentative proposals to how additional, better targeted content could be generated, based on previous work by the author.

Furthermore, the content discussed in this paper is "pure content", content that has been created directly by someone seeking to affect sensemaking (although the content creator may not put it this way themselves). We are not talking about content written by third parties that have emerged in response to events, such as a military exercise or an international political incident. These types of content can be a valuable part of FIMI but are outside the scope of the current discussion.

2.0 SENSEMAKING AND THE ABSENCE OF CONTENT IN OKINAWA PREFECTURE

The case examined in this paper relates to the Japanese and US military presence in Okinawa and local actors' access to content that discusses this presence. The perspective taken here is that of the local actors who were interviewed. In other words, the availability and relevance of content are judged from the informants' point of view, and not by doing a survey of all available online content. For instance, the Japanese MoD does of course have information about bases,[2] but it was not present in the information streams that my informants typically accessed.

2.1 Historical, Political and Media Context

Okinawa is a prefecture in Japan that consists of several islands in the East China Sea. The main island in the prefecture is also called Okinawa. Until 1879 Okinawa was the independent kingdom of Ryukyu for some 500 years and had a tributary relationship with both China and Japan. Japan took over the islands and incorporated them into the Japanese state in a period when both countries experienced increasing number of encounters with western powers that unsettled local power relationships. The mainland's attitudes and actions towards the islands have been at times condescending and high-handed. In the second world war Okinawa was the scene of intense battles between Japan and the USA, Japan's strategy being to inflict high damage on US forces on the islands to save the mainland.

[2] E.g. https://www.mod.go.jp/j/approach/zaibeigun/saco/

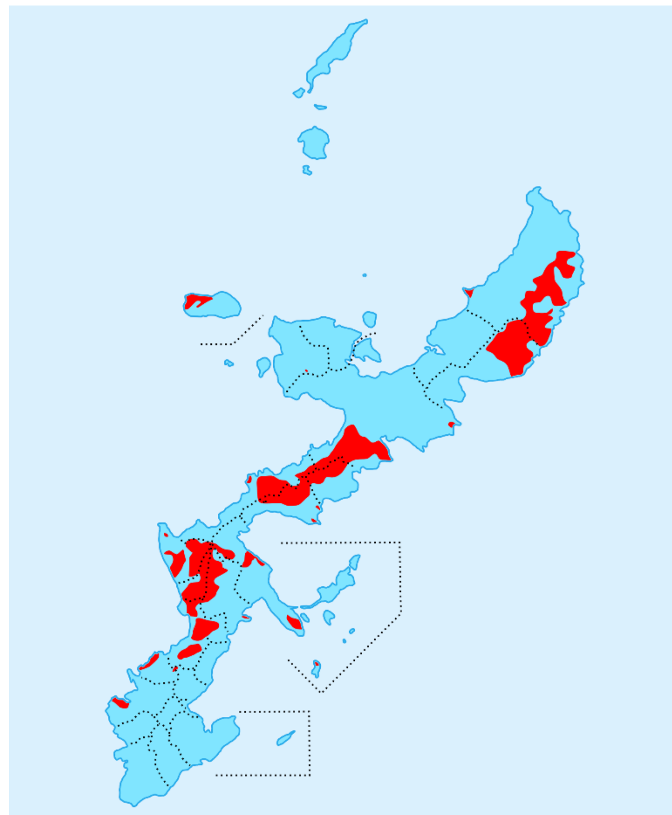

Figure 2. Map over US bases in Okinawa (map by Misakubo, Wikimedia Commons).

When the war ended Okinawa was devastated and up to one third of the local civilian population had perished [13]. Following the war, the prefecture was ruled directly by the US armed forces until 1972 when it reverted back to Japanese rule. During this post-war period a large number of US bases were built, with land expropriated from local citizens. These bases today cover almost 20% of the main island and hosts approx. 70% of the US forces in Japan, as shown in Figure 2.[3] The burden of hosting so many bases are felt to be very large for such a small island, when the whole of Japan benefits from US military protection. These bases are also a core facility for US' overall presence in the region. The loss of land and the civilian experiences of the war as well as transgressions by US soldiers towards the locals led to a broad aversion to war and military in general and the local bases specifically. This has manifested itself in demonstrations against bases and elections of local politicians who are against the bases.

However, today the picture is more nuanced. The military bases are more a "fact of life" for the younger generation and there are a lot of base/locals interactions [14]. Despite this, the mainland discourse tends to present Okinawa as anti-base and anti-military. However, this is more a reflection of the local Okinawa Island elite's discourses than a representation of the general attitudes in the Okinawa prefecture. In addition, there are considerable differences between the main Okinawa Island and the more remote, smaller islands. On these islands, with no American bases and physically closer to China, there is less focus on military in the local politics.

The international political climate in the East China Sea has changed dramatically over the past 20 years. For years Japan had fairly pro-Chinese policies. The two countries are also large customers of each other and tourism in both directions has grown considerably. However, the aggressive Chinese expansion to claim large parts of the South and East China Sea areas has brought China into conflict with many of its

[3] Data from the official Okinawa Prefectural Govt. Office in Washington D.C.: https://dc-office.org/basedata

neighbours [15] pp. 54-72. In Okinawa prefecture this expansion is felt most keenly by people on the smaller frontier islands. Starting in 2012 China has undertaken a long-term grey zone operation targeting the Senkaku Islands that Japan has controlled since 1895, with a gap from 1945 to 1972. A familiar play book approach using civilian and military actors to push away fishermen and establish a Chinese presence was attempted but a firm Japanese response scuppered this. However, the attempts to bring Senkaku Islands under Chinese control has not ended, and it is now dangerous for Japanese boats to fish there as Chinese ships has been known to ram them without warning. At the same time China's increased aggression toward Taiwan has raised the spectre of Okinawa being involved in a large international conflict. This could emerge either from a US involvement, or direct Japanese support for Taiwan.

Physical newspapers are still important in Japan, it has a ten times higher per capita newspaper circulation than Norway.[4] The national broadcaster, NHK, is an important source of news for most people. Online news is typically consumed via so-called news portals. These are web sites that collect news from many different sources rather than creating content themselves, with Yahoo News being the most popular.

On the social media front, the messaging app Line is the most popular platform, offering group chats and shopping in addition to messaging. Japan is Twitter's second largest market. Social media usage it not evenly spread throughout Japan, Miyako Island for instance had a very low social media usage.

2.2 Fieldwork Background

The data for this paper comes from interviews with a strategic sample of informants on the main Okinawa Island, the small frontier island of Miyako Island as well as extensive discussions with NGOs and researchers in Tokyo and Taiwan that worked on Internet related issues. The fieldwork took place during a one year visiting scholar stay at Hitotsubashi University in Tokyo. The overall approach was qualitative, using grounded theory. Rather than testing out a pre-defined hypothesis, the focus was on exploring base issues and digital content in collaboration with the informants.

The informants' backgrounds ranged from local journalists to NGOs working with migrants, from peace activists to people who had worked for the American bases and from fishermen to local government employees.

2.3 Informants' Media Use

The overall media usage among the informants can be summarised as follows: Activists often used social media actively to find and share information, often across borders. Media people tended to focus on Twitter as the platform of choice, even in places like Miyako Island where their readers rarely used Twitter. This meant that they did not reach their local audiences very well. In Miyako Island social media was used relatively little for general socialising, but YouTube and Google searches were often used to find practical information. A prominent local TikTok content creator explained that even the local young people did not use social media much on the island. Communications between local/national government entities and citizens still relies on traditional media. Most of the fishermen were sceptical to social media and relied on "phones as phones".

Line, the main messaging platform was not discussed by informants in Okinawa prefecture as an information source, In Taiwain however, a local fact checking organisation saw it as a core delivery mechanism for fake news and disinformation around elections on the island. When discussing this with Line staff I was told that their main concern was online bullying, not disinformation.

[4] Circulation data: https://www.pressnet.or.jp/english/data/circulation/circulation01.php and https://www.medietall.no/index.php?liste=opplag&sub=tall_avis

2.4 Informants' Content Experiences

The data analysis is still in an exploratory phase. However, there are already certain issues that emerge from the interviews. As discussed above, the two islands of Okinawa and Miyako Island are very different in terms of political outlook, despite a long history of shared governance, first as part of the Ryukyu kingdom and later through Japanese rule. This was also reflected in the content they sought out. Thus, the discussion here will look at the feedback from the two groups of informants separately, before discussing the contrasts this brought to light.

2.4.1 Okinawa Island

The local political elite could be said to have their own content creation and delivery mechanisms that were separate both from mainland Japan and the smaller Miyako Island. This still used traditional media as the main delivery mechanism: local TV, radio and newspapers. Much of the news concerned local events, but in terms of the military presence it would be firmly anti-base. A former liaison that had worked for the US bases and focused on creating more points of contact between the base workers and local people, expressed a frustration with what he saw as an anti-base bias in local news that he was unable to change.

Two of the informants who worked in the tourism industry were asked what they felt was missing from mainland news when it came to coverage of their area and their interests. The female respondent thought that too little was written about low-level harassment of local women from base inhabitants, whereas the other, male respondent felt that too much focus was on base issues and other aspects of the island were ignored.

An interesting aside was an informant who worked in the alternative health industry. He expressed deep scepticism about vaccines and the Covid-19 pandemic in general and referred to typical twitter based conspiracy theories. This affinity between alternative medicine and conspiracy theories has also been documented elsewhere [16]. This is interesting because such groups can be manipulated to distrust the government. However, in an Okinawan context there is so much focus on the base issue that other vulnerable groups are overlooked. This could clearly cause problems with FIMI operations that avoid the base issue and use other topics for manipulation.

2.4.2 Miyako Island

Whereas the Okinawan media were overtly political, the local papers in Miyako Island avoided politics, particularly local politics, to a large extent. A recent, large issue concerning bribes to a politician had, according to my translator, been discussed only vaguely in the local papers. However, this seems to have been the norm locally, none of the informants mentioned this as a problem. As mentioned earlier, one of the local newspapers used Twitter to spread information, but this was not used by my informants.

However, many of the informants from the fishing industry wanted more attention directed at the Senkaku islands issue but felt that this was largely ignored by the Tokyo press and the national broadcaster. Instead, it was a nationalist YouTube channel, Sakura Channel, that filled this information void with videos of fishing boats going to the islands and sometimes being harassed by Chinese ships. Some also sought out news on the Taiwan issue, and were worried about the potential for war, as one person expressed it, it is always "us" (i.e. regular, local people) who suffer.

2.4.3 Comparing the Two Islands

A key divergence was what the term *China* meant to different people. Among my sample it was clear that for the Okinawa Island elite and anti-base campaigners, China did not refer to a dictatorship that imprisoned its own people and clamped down any dissent. Instead, China represented the China of old, a country that had treated the Ryukyu kingdom as an independent country back in the day. Among younger people in the tourism industry China primarily meant tourism, and income, but not necessarily a type of tourist they

looked up to. On Miyako Island China was primarily viewed negatively, either as someone who took away what belonged to Japan, or as a supplier of too many tourists, most certainly a source of income, but one that brought problems in its wake, and which required handling. Here we can see very clearly that individual sensemaking was affected by different experiences with Chinese actors.

2.4.4 Missing Content

On both islands there was an overall feeling that mainland media often ignored the islanders' experiences, whether it was related to the US bases or Senkaku islands. At the same time, it became clear that there were gaps in local knowledge that may have been reduced if relevant content had been available in the information channels that informants used.

For example, suggestions have been made that US bases on Okinawa could be relocated to remote areas in Australia. The thinking behind this is that Australia is a large country with many empty areas where the bases would not disturb local people. However, basic military logistics and the current threat that China poses explain why this would not be an option. However, content that explained the practicalities of base locations to locals seemed to be missing.

Likewise, the desire that Miyako Island fishermen expressed, to stand up to China on the issue of the Senkaku islands, necessitates a stronger, local military presence. And the JSDF has indeed established a new base on Miyako Island in 2019 in response to Chinese activities around the Senkaku islands. The unease about this base, and local protests against it, could probably be alleviated to some extent through better communication about how the need arose. An interview with a local peace protester outside this new base made it clear that they were not against defence as such but had issues with what was perceived as American dominance. Content creation should thus not make assumptions that someone who are opposed to a certain activity, or some entity is against everything this represents. It can be some smaller issue that can be handled, in part, through new information.

A hands-off approach to local information seemed to be based on a general disinclination on behalf of the military to interact outside of official channels when it came to issues relating to the local military presence. A former US base employee who had worked to establish local ties explained that there was a difficulty in arranging events to bring people together, have informal dialogues, and so on. This was mostly due to US hesitance to engage. The rationale for having such events was that personal interactions would be like money in the bank for a rainy day, i.e. when some negative incident would occur.

Using the same logic, that there will be times that people search for information to feed their sensemaking, it is important that we do not wait until something happens to issue a press release, arrange a press conference or go on TV to explain an issue. Event-driven explanation have their place, but generating content that is relevant to different groups and their methods for information searching is important for the future. This will be discussed below in the section *3.5 Filling the Void: Supplementary Approaches to Content Creation in* Democracies.

3.0 DISCUSSION

The above summary of findings from Okinawa are snapshots that illustrate the importance of digital content that can help citizens make sense of *why* something happens. This has a direct bearing on democracies' ability to defend themselves against FIMI activities. It is therefore important to discuss content creation in some detail to highlight problems with our responses and outline some possible ways forward.

The discussion below will first look at FIMI actors' content creation approaches through the examination of an "ideal type" influence operation. The technological traits that facilitate FIMI online, in particular

algorithmic content searches and selections will be discussed. This latter element is of key importance to actually have an impact on sensemaking through human-information interaction. The core problem of data voids, and data voids' relation to content creation, will be examined next. Following this, the current responses to FIMI from democratic countries will be summarised and the scope for content creation will be contrasted with that of authoritarian FIMI actors.

The discussion will then consider potential new approaches to content generation. This is done, not out of naivety or ignorance for the very real limitations that exists in and around content generations, but to open up the discussions as broadly as possible.

3.1 What about Artificial Intelligence?

At the time of writing content generated automatically by so-called large language models (LLMs), a specific type of machine learning methods in the field of artificial intelligence (AI) is receiving a lot of attention. It has proven itself adept at generating good quality text that summarises complex information. In the context of this paper generative text could certainly be used to speed up content creation if the output is curated carefully. However, the notion of machine generated content could also make people suspicious of the content that is produced as it is currently often discussed in relation to deepfakes, content farms and the like [17].

3.2 FIMI Dissected: The Ideal Type Influence Operation

An "ideal type" can be thought of as a summary of elements and properties that make up a particular phenomenon. This is often used to discuss a particular phenomenon without having to include all the characteristics of a particular case. The purpose of using this approach is to provide explore how digital content that is relevant to sensemaking is spread, and how this is contested.

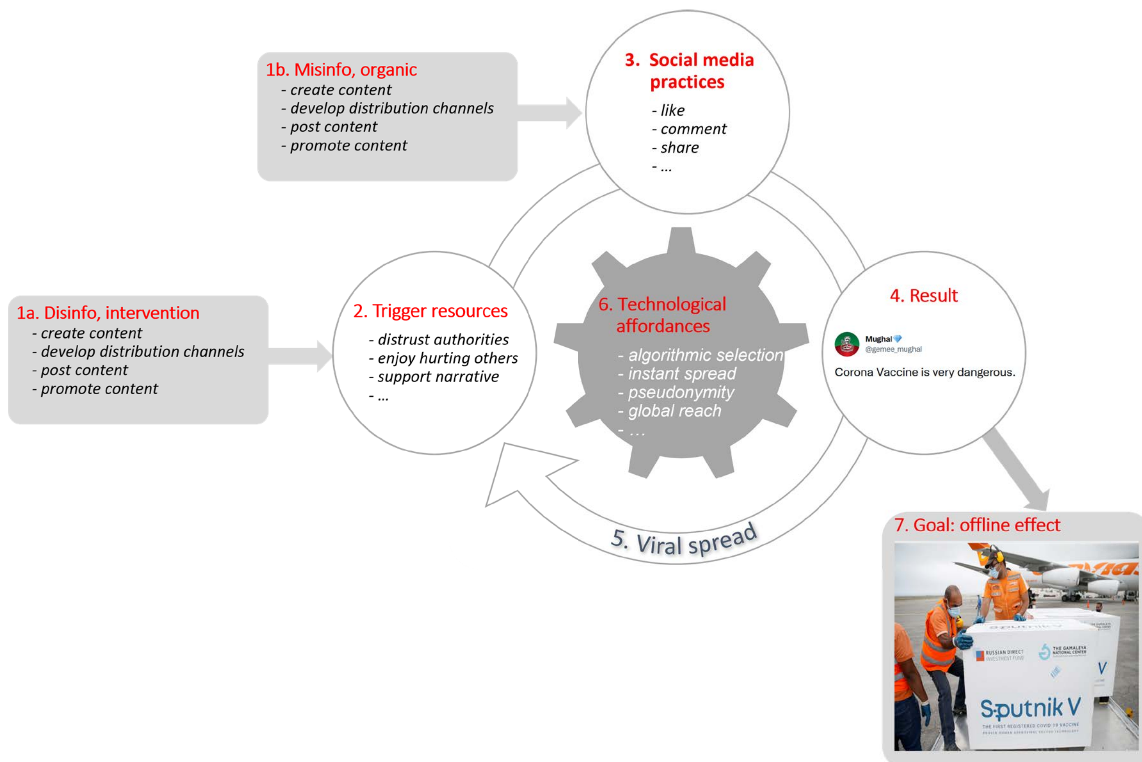

Figure 3 The different elements that make up an "Ideal Type" influence operation.

The starting point of a FIMI operation is an actor's deliberate wish to change the status quo of how "something" is viewed (step 1 in Figure 3 above). This could be a country, a group of people, a particular event, and so on. For instance, the CCP wants its rule to be seen as a valid, and improved, alternative to democratic rule. This first step is followed by a selection of possible channels to use to get the message across. Social media gives a disinformation actor a good chance of getting their content into the information stream of many users, and if noticed, become part of the sense-making material. This is achieved by appealing to certain trigger resources in a target group (step 2), for instance distrust of their own government or an interest in conspiracy theories. The CCP often appeals to post-colonial sentiments in the Global South for instance. Beyond these steps a FIMI operation would rely on common characteristics of online media (step 3), such as the ability to easily share content, provide feedback such as likes, etc. The next step is the result that is core to FIMI (step 4), namely that content is digested by at least some of the people who see it, and thus are involved in those people's sensemaking processes.

Beyond this there are two successful outcomes that may occur: The content from the FIMI operation is widely spread (going viral) and/or it contributes to a desired outcome, such as acceptance of a policy that is in favour of the FIMI actor (steps 5 and 7 respectively).

Underlying such FIMI activities are core online technologies, such as the algorithmic selection of content for social media users, the ability to create fake profiles that seems trustworthy, and so on (step 6). The traits that are particularly useful to FIMI actors, and thus problematic for democracies, will be summarised in the next section.

3.2.1 Digital Content Traits Exploited by FIMI

The **rapid spread** of digital content facilitates event-based influence efforts; one can quickly attach one's content to a/any topic that is currently popular. This is basically an effort to manipulate the algorithmic content selection to show FIMI content to relevant users.

Digital content allows an actor to use different **packaging** for a range of subject matters that all support the same narrative. One can use negative sensational content ("Covid-19 vaccines will kill you") or influencers talking in general terms about a topic. Content with high personal relevance that matches someone's personal interests and the language they use, will gain more attention, and thus enter into sensemaking activities, than content that feels more peripheral.

Finally, the **origin** of the content can be anonymised, or even better, pseudonymised. By using carefully built up profiles that pretend to be a person with relevance to a particular topic. In 2021 an account belonging to a Swiss doctor that discussed Covid-19 was shown to originate in China and was used to spread disinformation [18].

The purpose of these machinations is to manipulate the underlying automated actions that handle online digital content. Of special interest here are the mechanisms that select content to show to a person who is scrolling through a social media feed, searching for facts or in some other way ingesting information.

The informants discussed earlier tended to search for content to "figure out stuff". Even those who preferred information from the national broadcaster and local newspapers would access digital content at times. They might use search engines to look for information of high personal relevance or watch YouTube to learn about practical issues. Similar behaviours were found in Norway during the pandemic, people largely reverted to traditional news media like the state broadcaster or newspapers for information but would also search actively for information online [4].

3.3 The Data Void: Where Disinformation Lives

Search engines and social media feeds share the need to **always** display **some** information that is deemed to be of relevance to the user. It is users' attention to the web page that displays the information that is sold to advertisers; hence this represents the core of social media platforms' business model. This leads to the key weakness where the FIMI battles are fought, and where democracies need to establish a presence: the data void.

Data voids occur when people use "search terms for which the available relevant data is limited, non-existent, or deeply problematic. [...] Data voids lead to low quality or low auth ority content because that's the only content available. They come about both naturally and through manipulation. When people do search for a term that leads to a data void, search engines return results based on limited data." [19] p. 5. There is a lot of disinformation spread about topics where there is no data void, on topics with a lot of information available. However, FIMI content is made more quickly than valid, high-quality content (as discussed below). Data voids are therefore often exploited to present FIMI actors' narratives before democracies can react.

A good example of how data voids benefit FIMI have been discussed in a paper that examined results returned by Google and Bing searches for word like Xinjiang. Xinjiang is a province in China where the UN reports that up to a million people have been imprisoned and the CCP has increased its oppression to avoid any challenges to its power. Up to half of the initial search results on the term Xinjiang returned links to Chinese controlled webpages, often discussing the area in positive, tourist-like terms [5].

However, data voids are not necessarily a case of identical bad results presented equally to all users. More often there will be a data void for smaller groups of people where the combination of a core term and additional, locally situated concerns, are used. For instance, people may search for "corona vaccine" plus "autism". In other words, a data void occurs at the intersection of **topic** plus **context**. It is therefore important to understand contentious issues from the view of potential targets of FIMI. Referring back to the informants in Miyako Island, there may have been content available on the Internet that explained the need for a local JSDF base. However, such content had not entered the information stream the informants processed. Research and content creation in this area should therefore focus on individual user experiences of content, where available content is measured based on exposure to target groups, rather than crudely recording the presence of content on the Internet.

Over the past couple of years a new problem has appeared, that of chatbots providing responses to queries. A traditional online search to find out how the corona virus affects older people might be done using the words "coronavirus older people". In response one would see the number of web pages found that matches the search term, and a list of the results sorted in order of relevance. A chatbot on the other hand, responds to a question with a summary of the information on the topic without any context. The summary uses a large dataset to "know" how to write in a given language. There is no information of how many documents the answer was based on, where these documents came from, and so on. In the latter case a data void can cause the chatbot to "hallucinate" [20], that is, it makes up information that looks convincing as it is written in good, understandable language. There are some guardrails in place that try to catch obvious errors, but the overall model is based on learning from many documents, so the data void issue can be even more problematic here.

Data voids are not always, or even mostly, filled by FIMI actors. They can also be filled by content farms or activists. Even without a FIMI actor in the play, this can be problematic. In Miyako Island the lack of content on Senkaku islands issues were filled by the ultra-nationalist Sakura YouTube channel. This organisation also produces revisionist content about Japan's role in the second world war. A person looking for real information about the Senkaku islands issue may therefore also be exposed to disinformation.

The crux of the matter is that a data void relating to sensitive issues needs to be filled as part of the battle against FIMI. This is a different, preventive approach that runs counter to most approaches used to handle FIMI currently. These approaches will be discussed briefly before turning to possible new ways of handling data voids.

3.4 Current Responses to FIMI Activities

There are important differences between the efforts required to undertake FIMI activities and to defend against such information attacks. FIMI actors need not follow any laws, consider freedom of speech issues, or protect groups of people from online abuse. In fact, these elements are weaponised to spread disinformation and propaganda freely across the democratic world. Furthermore, countries behind FIMI activities need not fear retaliation, their own populations are often banned from accessing the Internet at large and connect to a heavily censored, local version. In terms of content creation, there are boundless topics to use when attacking democracies; from personal attacks on politicians to fake news stories about authoritarian regimes success with handling COVID-19.

Ironically, non-democratic FIMI actors seemingly have more freedom to create content in response to events than actors in democracies that are tasked with countering such efforts. An example of this is the London Bridge terror attack in 2017. Only a couple of hours later accounts that had peddled disinformation and fanned the flames of misinformation in the US election campaign the year before spread lies to inflame racial hatred. Similar rapid responses were seen after major fires in Hawaii recently [21].

Current methods for handling FIMI can be categorised as follows:

- Fact checking / myth busting; generally done by, or in collaboration with, NGOs.
- Mapping and / or attributing FIMI activities; to expose who was behind a campaign.
- Legislation aimed at social media platforms; mainly relating to moderation.
- Education and training; such as media literacy and source criticism.
- (Strategic) communications; for instance, deploying counter narratives.

Only the first and last of these counter-FIMI approaches concerns itself with content creation, the former mainly as a response to topics dictated by FIMI activities. Although the awareness of the FIMI problem is much higher these days, preventive measures like moderation have been reduced by some social media platforms while legislation passed in some regions has not had much effect yet. At the same time, the three first ways of handling of FIMI (which are also the most visible) are reactive. This means that FIMI content will already have had an opportunity to impact sensemaking and hence play a role in the strategic competition between the rule based international order and competing approaches. Democracies still have a lot of scope for improving matters when it comes to content, cognition and strategic competition.

3.5 Filling the Void: Supplementary Approaches to Content Creation in Democracies

This paper has documented the weaknesses related to sensemaking, a key element of cognition, when relevant digital content is missing, thus leaving the field open to FIMI. Before concluding it might be useful to make a brief suggestion for an approach that may alleviate this particular issue. Several of the points discussed in this section will be well known to communication professionals who already generate content and try to ensure a good fit with different audiences through concepts such as strategic communications, narratives, target audience analysis (TAA) and cultural domain analysis (CDA). The suggestions here are in no way denigrating the important work done, but an acknowledgement that in the vastness of the digital domain there is always space for more content than can be created by professionals alone. Below the **what**, **who** and **how** of possible content production approaches are discussed.

3.5.1 What?

Data voids have specific "shapes" as shown above: they emerge in an intersection of topics of interests, and specific, local concerns related to the topic. It has been said that one does not necessarily know in advance where a data void can occur [19] p. 5. However, most countries are aware of what issues are sensitive and of interest to certain groups. To provide relevant content a long-term perspective is necessary. This calls for the creation of what we can call "passive content", content that lies dormant on social media or relevant websites until it matches an algorithmic data search at some point in the future. This is different from "active content" that is created in response to current events and attempt to ride the coat tails of trending topics.

3.5.2 Who?

This raises the question of how we can possibly have the right "shape" for this long-term passive content, how do we know it will fit a future data void? One solution would be to use insiders from the groups in question, in other words, taking a "whole of society" (WoS) approach [23]. When framing FIMI discussions in terms of WoS issue, citizens are often relegated to the role of "trainee subjects" that will be individual fact-checkers in the battle against disinformation. This ignores their native knowledge and potential creativity. The Norwegian Defence Research Establishment used exactly this approach in an experiment that involved 17-year-olds at a local school. They were given the task of creating a disinformation campaign (for training purposes) that was aimed at eroding support for the draft in Norway. The resulting content were a perfect fit for the target group, i.e., their peers, in terms of language, narratives and illustrations.

The benefit of such an approach is that these content creators need not perform in-depth analysis of target groups or context, they live it every day, they are native experts. Furthermore, unlike content that is obviously "state made", this is made by and for peers. This makes it more likely that such content will arrive in the information streams of their peer group. FIMI actors like China already use this approach. The CCP is adept at using the so-called "little pinks", aggressive nationalists who happily pile in and attack, for example, a Danish newspaper that was deemed to have insulted China [24].

3.5.3 How?

The idea of the "citizen journalist" is nothing new, and social media users fill that role every day. The key issue would be to solicit contributions from groups that might not normally write about the topic in question, even if it is important to their peer group. Some useful approaches here might to work with NGOs, educational institutions, organise essay competitions and also seek out and promote existing content on the topic. This is not to say that it would be a simple task to encourage such content creation, but with the pressure democracies are under, new ways and means should be explored. For example, when the Covid-19 pandemic brought Norway to a standstill the prime minister of Norway held a press conference for children, where all questions were posed by kids who could express their worries. The result was a strong sense of togetherness in the country and the press conference was cited widely in media across the world [25]. And Huffington Post, a news site with tens of millions of unique monthly visitors ran for 13 years using only unpaid, voluntary submitted articles. Alternative ways of creating content can indeed work.

4.0 CONCLUSION

This paper has examined the role of digital content to provide relevant information to people who can be affected by the strategic competition between democracies and authoritarian states. This has been explored mainly through the lens of sensemaking, a key element of cognition and by extension, cognitive warfare. Content alone, however good, will not be the saviour of democracies. However, in a contested situation, not presenting the democratic side of an argument through relevant content obviously leave the field for the other side to make easy gains.

Furthermore, the battle of the narratives is often discussed in communication contexts. It is important to realise that the narrative is operationalised through content. The lack of relevant content in the digital domain is the cogwar equivalent of turning up for battle with no bullets. This can result in, as research from Okinawa prefecture highlighted, misunderstandings about military presence and lack of support for decisions taken to defend a democracy.

The final part of this paper has suggested that democracies, and larger international organisations, may need to consider having less control over content that is created and to take a whole of society approach to digital content generation. It was suggested that younger people can be involved in this. If democracies are to gain a cognitive edge, as desired by NATO, it is important to explore new ways of doing old tasks.

5.0 REFERENCES

[1] Y. R. Masakowski and J. Blatny M., ‘Mitigating and Responding to Cognitive Warfare’, NATO Science & Technology Organization, Brussels, TR-HFM-ET-356, 2022. Accessed: Mar. 02, 2023. [Online]. Available: https://www.sto.nato.int/publications/STO%20Technical%20Reports/STO-TR-HFM-ET-356/$TR-HFM-ET-356-Pre-Release-ALL.pdf

[2] E. Lucas and B. Nimmo, ‘Information Warfare: What Is It and How to Win It?’, CEPA INFOWAR PAPER No. 1, 2015. Accessed: Aug. 16, 2016. [Online]. Available: http://cepa.org/sites/default/files/Infowar%20Report.pdf

[3] Joint and C. O. Analysis, ‘Decade of War, Volume I: Enduring Lessons from the past Decade of Operations’, Joint Staff J7, Suffolk, VA, 2012.

[4] Medietilsynet, ‘Økt nyhetsinteresse og mediebruk under koronapandemien’, Medietilsynet. Accessed: Mar. 02, 2023. [Online]. Available: https://www.medietilsynet.no/nyheter/aktuelt/okt-nyhetsinteresse-og-mediebruk-under-koronapandemien/

[5] J. Brandt, B. Schafer, E. Aghekyan, V. Wirtschafter, and A. Danaditya, ‘Winning the web: How Beijing exploits search results to shape views of Xinjiang and COVID-19’, Brookings Institution, 2022.

[6] T. Niven and M. Ichihara, ‘To Influence Japan, China Tries Subtlety’, American Purpose. Accessed: May 12, 2022. [Online]. Available: https://www.americanpurpose.com/articles/to-influence-japan-china-tries-subtlety/

[7] M. Thibault and G. Marino, ‘Who Run the World? Cats: Cat Lovers, Cat Memes, and Cat Languages Across the Web’, Int J Semiot Law, vol. 31, no. 3, pp. 473-490, Sep. 2018, doi: 10.1007/s11196-018-9559-8.

[8] C. Nast, ‘Slovakia’s Election Deepfakes Show AI Is a Danger to Democracy’, Wired UK. Accessed: Oct. 29, 2023. [Online]. Available: https://www.wired.co.uk/article/slovakia-election-deepfakes

[9] A. Bergh, ‘Påvirkning og teknologi gjennom tidene: Fra falske allierte til falske nyheter’, in Cyberoperasjonar på norsk, Oslo, 2023.

[10] C. Peters, K. C. Schrøder, J. Lehaff, and J. Vulpius, ‘News as They Know It: Young Adults’ Information Repertoires in the Digital Media Landscape’, Digital Journalism, vol. 10, no. 1, pp. 62-86, Jan. 2022, doi: 10.1080/21670811.2021.1885986.

[11] C. Paul, M. Schwille, M. Vasseur, E. M. Bartels, and R. Bauer, ‘The Role of Information in U.S. Concepts for Strategic Competition’, RAND Corporation, Oct. 2022. Accessed: Oct. 30, 2023. [Online]. Available: https://www.rand.org/pubs/research_reports/RRA1256-1.html

[12] EEAS, ‘1st EEAS Report on Foreign Information Manipulation and Interference Threats: Towards a framework for networked defence’, Feb. 2023. Accessed: Oct. 30, 2023. [Online]. Available: https://www.eeas.europa.eu/sites/default/files/documents/2023/EEAS-DataTeam-ThreatReport-2023.pdf

[13] ‘Okinawa: The Costs of Victory in the Last Battle’, The National WWII Museum | New Orleans. Accessed: Oct. 30, 2023. [Online]. Available: https://www.nationalww2museum.org/war/articles/okinawa-costs-victory-last-battle

[14] A. Johnson, Night in the American Village: Women in the Shadow of the U.S. Military Bases in Okinawa. New York, NY: The New Press, 2019.

[15] Y. Shinji, Y. Masaaki, and M. Rira, ‘China’s Quest for Control of the Cognitive Domain and Gray Zone Situations’, p. 93, 2022.

[16] Center for Countering Digital Hate, ‘The Disinformation Dozen’, Center for Countering Digital Hate, 2021. Accessed: May 06, 2021. [Online]. Available: https://252f2edd-1c8b-49f5-9bb2-cb57bb47e4ba.filesusr.com/ugd/f4d9b9_b7cedc0553604720b7137f8663366ee5.pdf

[17] ‘Rise of the Newsbots: AI-Generated News Websites Proliferating Online’, NewsGuard. Accessed: Oct. 30, 2023. [Online]. Available: https://www.newsguardtech.com/special-reports/newsbots-ai-generated-news-websites-proliferating

[18] B. Nimmo, ‘The Swiss Biologist That Never Was: A Chinese influence operation focused on COVID-19’, Meta, Nov. 2021. Accessed: Jun. 02, 2022. [Online]. Available: https://about.fb.com/wp-content/uploads/2021/12/November-2021-CIB-Report.pdf

[19] M. Golebiewski and D. Boyd, ‘Data Voids: Where Missing Data Can Easily Be Exploited’, Data & Society, Oct. 2019.

[20] H. Alkaissi and S. I. McFarlane, ‘Artificial Hallucinations in ChatGPT: Implications in Scientific Writing’, Cureus, vol. 15, no. 2, p. e35179. doi: 10.7759/cureus.35179.

[21] D. E. Sanger and S. L. Myers, ‘China Sows Disinformation About Hawaii Fires Using New Techniques’, The New York Times, Sep. 11, 2023. Accessed: Oct. 02, 2023. [Online]. Available: https://www.nytimes.com/2023/09/11/us/politics/china-disinformation-ai.html

[22] Allied Command Transformation, ‘NATO Warfighting Capstone Concept’. 2021. Accessed: Oct. 30, 2023. [Online]. Available: https://www.act.nato.int/wp-content/uploads/2023/06/NWCC-Glossy-18-MAY.pdf

[23] ‘Combatting Targeted Disinformation Campaigns’, p. 28, 2019.

[24] T. You, ‘Chinese put swastika on Danish flag over coronavirus flag row’, Mail Online. Accessed: Apr. 03, 2020. [Online]. Available: https://www.dailymail.co.uk/news/article-7948913/Chinese-swastika-Danish-flag-PM-refuses-apologise-coronavirus-China-flag.html

[25] R. Milne, ‘Norway’s PM moves to allay children’s coronavirus fears’, Financial Times, Mar. 16, 2020. Accessed: Oct. 29, 2023. [Online]. Available: https://www.ft.com/content/38357156-6786-11ea-800d-da70cff6e4d3