Populist narrative power in a globalised infosphere: a cross-language analysis

Zhu Yi[1*], **Thomas Gaskin**[2, 3†]

[1] Institute of Chinese Studies, Heidelberg University, 69115 Heidelberg, Germany; [2] Department of Applied Mathematics and Theoretical Physics, University of Cambridge, Cambridge CB3 0WA, United Kingdom; [3] Department of Mathematics, Imperial College London, London SW7 2AZ, United Kingdom

*yi.zhu@zo.uni-heidelberg.de | †trg34@cam.ac.uk

Abstract Populism constitutes one of the greatest challenges to democratic systems, and understanding its dynamics is key to combating it. In this article, we present a quantitative and qualitative analysis of the conversation on Twitter around the anti-Covid protests in China, a seismic political event which at first glance seems wholly unconnected to populist movements in the West. However, our study shows that Western right-wing populists used the opportunity to draw parallels between Chinese and Western anti-lockdown protesters, furthering their agenda of painting democratic governments as authoritarian and tyrannical. Our analysis of over four million tweets in English, German, and Chinese shows that populists were the dominant voices in the English and German debates. Traditional media outlets largely ceded their editorial and interpretative power online, and were merely used as a source of footage. As we demonstrate, this is structurally visible in the underlying conversation network. Compared to the German sphere, English-speaking populists displayed a high degree of sophistication in constructing their narratives. Our research uncovers previously overlooked populist communication strategies, especially in relation to popular movements in non-democratic countries, and illustrates how, beyond outright misinformation, 'reframing' of factual news is an effective way of strengthening populist narratives.

Keywords: Populism, Covid-19, China, Media, Social Network Analysis

Contents

Introduction **3**

Populism, Social Media, and Covid-19 ..... **3**

Research Design and Methodology **4**
- Research questions 5
- Data collection 5
- Classification of populist actors 6
- Language analysis 7
- Network analysis 7

Results **7**
- Right-wing populists dominate the Western debates 7
- Good people versus Bad governments: drawing parallels between China and the West 9
- Casting Blame: Western Elites and the Mainstream Media 11
- Comparing the English and German Twitterspheres 13
- Traditional journalism: sidelined and demonised 16

Discussion **16**

Supporting Information **23**

Introduction

In late November and early December 2022, the so-called 'White Paper movement' (白纸运动) swept China and captured significant international attention (Zeng and Cheng, 2024). Predominantly young Chinese citizens took to the streets to oppose the government's zero-Covid policies, holding up blank sheets of paper as a symbol of their dissent. Until that moment, China's pandemic-control approach had stood in stark contrast to that of many other countries: while the emergence of the Omicron variant in 2021 had led most nations to shift away from restrictions and focus on effective vaccination programs, China maintained a rigorous zero-Covid approach throughout 2022, leading to low infection rates but also causing severe economic and health distress (Sobczak and Pawliczak, 2023; Yan et al., 2023; Low, 2024). By late November, large-scale demonstrations had finally erupted across multiple Chinese cities, with the most striking demonstration taking place on November 26 in Shanghai. Although the government swiftly repressed the protests by arresting many demonstrators, it later announced the end of most Covid restrictions in December 2022. International media widely praised this event as China's most significant public uprising since the pro-democracy Tiananmen movement in 1989 (Che et al., 2022; Kretschmer, 2022), while many Western politicians expressed their support of the Chinese protesters.

With Chinese domestic media tightly regulated by the government, and foreign correspondents in China having largely paused their travel and reporting trips due to pandemic restrictions (Foreign Correspondents Club China, 2022), Twitter (now X) became an essential tool for Chinese netizens to bypass censors and attract international attention in the wave of the White Paper movement. Reports and video footage of the protests were collected and disseminated via social media, with a single Twitter user (@whyyoutouzhele or 'Teacher Li') emerging as a pivotal information hub also for Western journalists (Shen, 2022; Zeng and Cheng, 2024).

Our initial research interest lay in examining the flow of information through social networks and across languages, how information regarding protests in China was disseminated to Western audiences, and whether non-mainstream Chinese sources played a role. However, while investigating a large dataset of over four million tweets in Chinese, English, and German, we quickly realised that the dominant voices, both in the English and the German-language sphere, were not traditional news outlets but rather populist commentators, primarily composed of right-wing activists, Covid deniers, and vaccine sceptics (known as 'Querdenker' in German). This finding puzzled us: why would Western populists be interested in the Chinese White Paper movement?

In this study, we examine the dynamics of populist actors in a globalized information sphere, where global events shape domestic political discourse. Our study uncovers three key research findings. First, populists played a major role in shaping the narrative around the protests in China. Despite the growing influence of populist movements in democratic societies, little theoretical and comparative work has explored their relationship with popular protests in authoritarian regimes. The intense interest shown by populists in the White Paper protests underscores the need for further analysis of this dynamic, and our dataset—freely available to download—offers ample potential for further research. Second, while previous research has focused on how populists employ misinformation to erode trust in democratic institutions, our study highlights their ability to reframe factual international news to align with their domestic agendas. Third, we examine the role of traditional media and journalists. While populists are often thought to reject mainstream media in favour of non-factual sources, our findings add nuance: journalists were utilised as a general information source by populist influencers, but had little control over the discourse on Twitter.

The article is structured as follows. We begin with a brief survey of the current state of research on populism, highlighting aspects most relevant to our findings. Next, we outline our research design and methodology—a mixed-methods approach that combines large-scale quantitative social network and language analysis with a qualitative, multilingual study of individual tweets. We then present and discuss our results.

Populism, Social Media, and Covid-19

Populism is widely regarded as one of the most pressing challenges to democratic systems. While its exact definition

is complex and variously interpreted within different academic frameworks, the most widely adopted approach views populism as a 'thin-centred ideology that considers society to be ultimately separated into two homogeneous and antagonistic camps: "the pure people" versus "the corrupt elite" (Mudde and Kaltwasser, 2017). Current research and public debates mainly focus on populists' capacity to instigate or amplify domestic polarization by focusing on issues such as economic inequality, immigration, and anti-pluralism (Müller, 2016; Berman, 2021; Rodrik, 2021). A key characteristic is its heavy use of misinformation (Tumber and Waisbord, 2021), the spread of which is greatly facilitated by online social media (Vosoughi et al., 2018). Populists often utilise platforms such as Twitter or Facebook to directly connect with 'the people', bypassing traditional media (Engesser et al., 2017), which they often accuse of representing 'corrupt elites' (Schmuck and Hameleers, 2020). Social media algorithms in turn play a role in amplifying populist content, since they typically prioritise engagement and sensationalism over accuracy (e.g. Gerbaudo (2018); Hopster (2021)).

The arrival of the Covid-19 pandemic brought with it a further flurry of interest in populist responses and communication strategies (Ringe and Rennó, 2023; Zulianello and Guasti, 2023). Researchers mainly focussed on two aspects: first, how populist actors (politicians and parties) reacted to the crisis, e.g. by shifting blame for mismanagement or policy failures onto scientists and the media (Cervi et al., 2021; Fernandes and de Almeida Lopes Fernandes, 2022; Taraktaş et al., 2024); second, how an 'infodemic' of misinformation, fake news, and conspiracy theories were amplified on social media (Zarocostas, 2020; Cinelli et al., 2020; Boberg et al., 2020; Eberl et al., 2021). From 2020 to early 2022, across Europe and America, protests against governments' Covid-19 containment measures became 'almost as epidemic as the virus itself.' (Neumayer et al., 2024) These protests often intersected with populist movements, which seized the opportunity to further promote distrust of elites and experts, and portray government restrictions as an infringement on the freedoms of the people (Fernandes and de Almeida Lopes Fernandes, 2022; Lehmann and Zehnter, 2022; Zanotti and Turnbull-Dugarte, 2022).

While numerous studies on the interplay between populism and anti-Covid protests have adopted a cross-national approach (Neumayer et al., 2024; Stavrakakis and Katsambekis, 2020), these are restricted to democratic societies. Since there is a general assumption in the literature that populists are anti-pluralism (Müller, 2016), nationalistic, xenophobic (Brubaker, 2020; Inglehart and Norris, 2017), and pursuing an anti-human rights agenda (Alston, 2017), they are broadly expected to be indifferent to the politics of and the oppression faced by people in authoritarian countries. However, this is at odds with our data, which highlights a strong interest displayed by Western populists in events in China. In addition, we see direct interaction between Western populists and Chinese sources, and in some cases an unexpectedly high degree of sophistication and understanding in populists' perspectives on China.

A second question the contemporary literature does not address is the distinction between populist movements in democratic societies and popular uprisings in autocratic regimes. Müller (2016) views populism as a phenomenon inherent to modern representative democracy—both a shadow of and a threat to it. Interestingly, international news reports often employ the pattern of 'pro-freedom people' v.s. 'repressive state' to frame protests in authoritarian systems, mirroring the antagonistic dichotomy presented by Western populists interpreting Western societies. In this vein, the media likened the White Paper movement to 'freedom struggles across Asia and the world' (Dale, 2022) such as the Arab Spring uprising or concurrent protests against the Iranian regime (Dale, 2022; Chin, 2022). While our study does not directly resolve this theoretical problem, our dataset does present an opportunity to further analyse the discourse in China, and to compare the language, framing, and discourse of Chinese protesters with that of Western anti-Covid movements.

Research Design and Methodology

Twitter was selected as the primary platform for this study due to its crucial role in providing international audiences with information about the protests in China, and more generally with domestic and global news. Media professionals in the U.S. and Europe have cited Twitter as their most important social media platform for work (Pew Research Center, 2022; von Nordheim et al., 2018), and a February 2022 survey found that globally, Twitter users preferred informative content over other types (Statista, 2022). In the U.S. alone, 55% of Twitter users in 2021 stated they regularly read the news on the platform—more than on any other social media site (Pew Research Center, 2021).

Our dataset includes tweets in Chinese, English, and German. Chinese-language tweets serve as the primary source of protest-related information, while English and German tweets are analyzed to understand how these events were framed and discussed in different linguistic and cultural contexts. English, the dominant language on Twitter, represents discourse from various Western societies, including the United States, Canada, and the United Kingdom. In contrast, examining German-language discussions allows for a comparative perspective, highlighting both shared patterns and distinct variations in discourse between the Anglo-American and German Twitterspheres.

To analyze this large-scale dataset, we employ a mixed-methods approach that combines computational techniques with qualitative discourse analysis (see below). This methodology enables us to uncover the structural dynamics of the discourse while providing an in-depth examination of discursive power. As Dehghan et al. (2020) argue, mixed-methods designs are particularly effective for studying social media discourse, especially in cases involving everyday user interactions rather than high-profile figures whose accounts are easier to track. Similarly, Andreotta et al. (2019) advocate for a phased mixed-methods framework that combines automated data processing with qualitative interpretation.

Research questions

Following data collection, our first research question (RQ1) investigates the key actors involved in disseminating and framing the anti-Covid protests in China for Western audiences (English and German Twitter users). We use computational methods to identify the most influential user accounts based on retweets and quotes. Qualitative coding of these accounts reveals that, in both the English and German Twitterspheres, populist commentators played a more dominant role than traditional news media.

The second research question (RQ2) examines how actors interact, particularly the relationship between populists and traditional media. Social network analysis identifies overarching structures, user clusters, and cross-language interactions. Notably, some German news outlets received a high volume of replies, which we then analyze qualitatively.

Our third research question (RQ3) focuses on populist discursive power: how did Western populists incorporate the White Paper movement into their own narratives? How was the event framed, and what framing tactics were used? Using computational methods, we identify frequently occurring keywords associated with populist narratives—such as 'people' and 'government'—as well as words that appear disproportionately often in populist discourse. We then conduct a qualitative discourse analysis of the most influential tweets containing these keywords to gain deeper insight into populist framing strategies.

Finally, our fourth research question (RQ4) compares English and German discussions to identify the distinct characteristics of discourse within each linguistic sphere.

Data collection

We downloaded a dataset of about 4 million tweets from the Twitter API, of which about half (51%) are in Chinese, 47% in English, and the remainder in German. Over 80% of all collected tweets are retweets, with the remainder being original tweets, quotes, or replies. In total, about 230,000 individual authors contributed to the discussion, while over 710,000 unique authors retweeted at least one relevant post. We consider the period covering key moments of the anti-zero-Covid movement, from November 21, 2022 (00:00 GMT) until December 10, 2022 (00:00 GMT). Specifically, reports indicate that worker protests erupted at the Foxconn factory on November 22 (Beijing time), and China officially lifted the zero-Covid policy on December 8, 2022.

Due to the informal register of many tweets, as well as the complex nature of the White Paper movement involving numerous localities and actors, we quickly realised that simply using "White Paper" as a keyword was insufficient to capture all relevant tweets. After some preliminary searches, the following set of criteria were found to return a high proportion of relevant tweets; these follow the general pattern of requiring a geographic location (somewhere in China) in conjunction with some form of protest-related action or actor. We found Chinese queries to require a higher level of granularity (e.g., in the location filter) than the English query, since Chinese audiences were generally more familiar with the particulars of ongoing events in China. For English, all tweets containing at least one word from each of the following groups were included:

- **Word group 1 (geographic locations)**: China, Chinese, Zhengzhou, Foxconn, Nanjing, Shanghai, Beijing, Urumqi, Xinjiang, Wuhan, Chengdu, Guangzhou, university

- **Word group 2 (actions/actors)**: protest, protester, protestor, protesters, uprising, citizen, covid, lockdown, crackdown, revolution, movement, white paper

For Chinese, tweets were required to contain at least one keyword from each of at least two of groups 1–3, or at least one keyword from group 4 (translations in parentheses):

- **Word group 1 (geographic locations)**: 北京 (Beijing), 天津 (Tianjin), 上海 (Shanghai), 重庆 (Chongqing), 河北 (Hebei), 石家庄 (Shijiazhuang), 山西 (Shanxi), 太原 (Taiyuan), 陕西 (Shaanxi), 西安 (Xi'an), 山东(Shandong), 济南 (Jinan), 河南 (Henan), 郑州 (Zhengzhou), 辽宁 (Liaoning), 沈阳 (Shenyang), 吉林 (Jilin), 长春 (Changchun), 黑龙江 (Heilongjiang), 哈尔滨 (Harbin), 江苏 (Jiangsu), 南京 (Nanjing), 浙江 (Zhejiang), 杭州 (Hangzhou), 安徽 (Anhui), 合肥 (Hefei), 江西 (Jiangxi), 南昌 (Nanchang), 福建 (Fujian), 福州 (Fuzhou), 湖北 (Hubei), 武汉 (Wuhan), 湖南 (Hunan), 长沙 (Changsha), 四川 (Sichuan), 成都 (Chengdu), 贵州 (Guizhou), 贵阳 (Guiyang), 云南 (Yunnan), 昆明 (Kunming), 广东 (Guangdong), 广州 (Guangzhou), 海南 (Hainan), 海口 (Haikou), 甘肃 (Gansu), 兰州 (Lanzhou), 青海 (Qinghai), 西宁 (Xining), 内蒙 (Inner Mongolia), 呼和浩特 (Hohhot), 新疆 (Xinjiang), 乌鲁木齐 (Urumqi), 西藏 (Tibet), 拉萨(Lhasa), 广西 (Guangxi), 南宁 (Nanning), 宁夏 (Ningxia), 银川 (Yinchuan), 中国 (China), 各地 (various regions)
- **Word group 2 (actors)**: 学生 (students), 大学 (university), 高校 (high school), 学院 (institute), 年轻人 (young people), 工人 (workers), 警 (police), 民众 (crowd), 居民 (residents), 市民 (urban residents)
- **Word group 3 (actions)**: 抗 (protest), 清零 (zero-Covid policy), 疫 (pandemic), 封 (lockdown), 暴 (sudden, violent; erupt), 冲突 (conflict), 游行 (travel), 示威 (show force), 反 (anti-), 自由 (freedom), 运动 (movement), 革命 (revolution), 街头 (street)
- **Word group 4 (general keywords)**: 富士康 (Foxconn), 白纸 (white paper), 四通桥 (Sitong Bridge, Beijing)

Tweets containing at least one keyword from groups 1–4 by the user '@whyyoutouzhele' are also kept. In all cases, keywords are case-insensitive.

We also consider a dataset of tweets in German for the same period, using similar keywords as in English; tweets containing at least one keyword from each of the following word groups are considered:

- **Word group 1 (geographic locations)**: China, Zhengzhou, Foxconn, Nanjing, Shanghai, Beijing, Urumqi, Xinjiang, Wuhan, Chengdu, Guangzhou, Studenten (students)
- **Word group 2 (actions)**: Protest, Demo (demonstration), protestieren, Widerstand (resistance), Bürger (citizens), Corona, lockdown, Revolution, Bewegung (movement), A4

Classification of populist actors

Existing methods of measuring populist attitudes are debated and generally acknowledged to be inconsistent (Olivas Osuna and Rama, 2022). Relevant databases, such as PopList or Global Populism Database, predominantly focus on the classification of political parties or leaders. In our investigation, we therefore employ the following logic to categorize key Twitter users as populists: first, we give precedence to any published research or reporting that previously categorised an actor as (right- or left-wing) populist, or publicly known affiliations with populist movements. In the absence of such evidence, we check their online Twitter presence for typical characteristics of right-wing populism. These include: repeated expressed support of right-wing populist actors or movements, such as the alt-right, Donald Trump, MAGA, or the AfD; affiliation with right-wing populist media, such as Breitbart or GB News; dehumanising migrants or refugees or voicing opposition to immigration on racial or nationalist grounds or otherwise expression of extreme nationalist sentiment, in combination with any of the following: repeated denial or scepticism of established science, such as the existence or virulence of the Covid virus, the effectiveness of the Covid vaccine, or the existence of man-made climate change; dissemination of conspiracy theories such as fabrication of Covid as a bioweapon, the Covid vaccine as a mind-controlling substance or otherwise nefarious means by a government or political entity to control or negatively harm society, the existence of shadowy cabals

influencing society (e.g. the 'Deep State'); defamation of mainstream media as government-controlled propaganda. Instances of 'left-wing populism' only occurred in the German context, where classification is based on affiliation with left-wing populist parties ('Die Linke' and 'Bündis Sahra Wagenknecht' (BSW)). See Supplementary Material for a list of categorised actors mentioned in this paper not listed in tables 1–2.

Language analysis

Tweets are processed using a natural language pipeline (spacy[1], Honnibal et al. (2023)). The *word frequency* $f(w)$ of a word w is calculated as $n(w)/N$, where $n(w)$ is the total number of occurrences of that word, and N is the total number of words in the dataset, not including *stop words* (the most common words of a language such as 'the' or 'and'). Each word is *lemmatised*, i.e. only its root is considered (infinite forms of verbs, singular forms of nouns, etc.). We calculate the *expected frequency* f_E using the Python `wordfreq` package[2]. The disproportionality factor shown in fig. 3a is then given by $f(w)/f_E(w)$.

Network analysis

We build a network of tweets in the following way: each user constitutes a network node. User i is connected to user j through a directed edge e_{ij} if i has retweeted, replied to, or mentioned j. The edge weight $e_{ij} > 0$ is equal to the sum of retweets, replies, and mentions. For each node, the sum $\sum_i e_{ij}$ is the *in-degree* of node j, and $\sum_i e_{ji}$ is its *out-degree*.

We wish to gauge how 'central' a user is to the flow of information circulating through it. Two measures to do so are *betweenness centrality* and *pagerank* (Page et al., 1998). Betweenness centrality is a measure of how often one must pass through a given node v when moving through the network. A *path* of length l between two nodes u and v is a sequence of steps $(u_1, ..., u_l)$ such that $u_1 = u$, $u_l = v$, and $u_i \notin \{u, v\}\ \forall i \notin \{1, l\}$. A path of length l is called a *shortest path* if there exist no paths from u to v of length $< l$. The betweenness $b(v)$ of v is then given by

$$b(v) = \sum_{s \neq v \neq t} \frac{\sigma_{st}(v)}{\sigma_{st}} \tag{1}$$

where $\sigma_{st}(v)$ is the number of shortest paths from node s to node t that pass through v, and σ_{st} is the total number of shortest paths from s to t. The betweenness is a number between 0 and 1, with 1 representing maximal centrality (meaning all shortest paths in the network *must* pass through v).

In general, this measure of betweenness does not take the weight of each edge into account. A node may thus be very central even though it is of relatively low importance to the flow of information, meaning a node may be central despite having a low in-degree. To this end, we also make use of a *pagerank algorithm* which in our case quantifies the likelihood with which a user will be referenced. Mathematically, the pagerank $\rho(i)$ of node i is the solution to the equation

$$\rho(i) = \frac{1-d}{N} + d \sum_{j \neq i} \frac{e_{ij}\rho(j)}{\sum_k e_{jk}}, \tag{2}$$

where $d = 0.85$ is a *dampening factor*. Eq. (2) is solved using a power iteration method for eigenvector equations (Langville and Meyer, 2005). A high pagerank mains a user is often cited by other users also of high pagerank, meaning they are an important account in the discussion (Priyanta and Trisna, 2019).

Results

Right-wing populists dominate the Western debates

We associate a user with a language if the majority of their tweets is in that language. In all three languages, a small number of accounts were found to have outsized influence on the debates, framing the ongoing events in China and shaping the narratives. Of the top 100 most retweeted English-speaking accounts, we found almost half (44%) to be from right-wing populists (following the previously outlined classification scheme); of the top 10 most retweeted accounts, at least eight can be identified as right-wing populists (see fig. 2 and tables 1–2). The German Twitter accounts most actively involved in the discussion are ideologically more diverse: six of the top 10 most retweeted accounts are right-wing populists, while two belong to left-wing populist parties. This reflects findings in protest research which suggest that German Querdenker movements attracted participants with different socio-political backgrounds (Frei et al., 2021), while right-wing organisers of anti-Covid protests were

[1] spacy.io
[2] pypi.org/project/wordfreq/

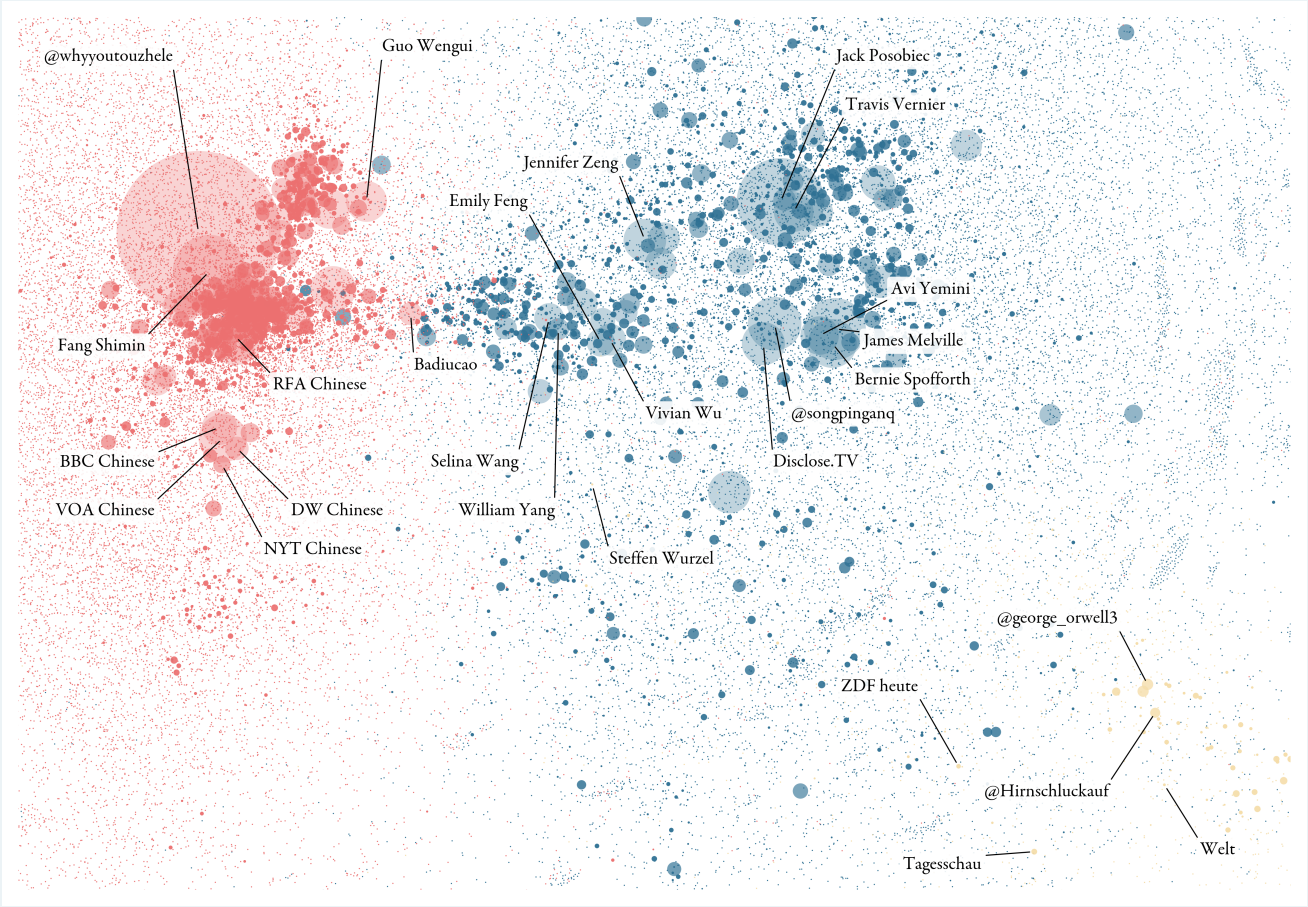


Figure 1: Overview of the conversation network, consisting of over 880,000 users tweeting about the protests in China. Users are connected via a link if they have quoted, retweeted, or mentioned another user, and the size of each node indicates the total number of retweets and quotes that user has received. Some prominent users are labelled (see also Tables 1–2). The colour of each node indicates the majority language in which users have tweeted: Chinese (red), English (blue), or German (yellow). Nodes are positioned using a spring layout, minimising the distance between connected nodes. The closer two nodes are, the more often they retweet each other. Information from the Sinosphere (red) flows to the Western spheres through a narrow bottleneck, populated mainly by Chinese-speaking reporters and journalists. German reporters, media, and populists (yellow) are far removed from the Sinosphere, instead often sourcing their information from secondary, English-language accounts.

"able to mobilise people beyond traditional ideological divisions of 'left' or 'right'." (Vieten, 2020) As mentioned, in the Sinosphere, the majority of video material about the protests was collected and disseminated by a single account (@whyyoutouzhele, or Li Laoshi 李老师), a Chinese dissident residing in Italy. This account became one of the major sources of information about events unfolding for Western accounts. Consequently, this account is by far the most cited and retweeted Chinese-speaking account in the dataset. However, the Chinese community was, naturally, more actively contributing to the discussion: around 40% of all users captured in the dataset contributed at least once to the debate (fig. 2b), in good agreement with the study of Chinese citizen journalism during the White Paper protests conducted by Zeng and Cheng (2024). This number drops significantly for German and English users, where the overwhelming majority (70–80%) of users was passive, contributing only to the discussion by retweeting.

Retweets were heavily skewed towards a small number of accounts (fig. 2c): the top 0.1% of English- and Chinese-speaking accounts by total retweets and quotes (around 100 accounts) received over 80% of the attention in the form of retweets; the German-speaking dataset was slightly less concentrated, though here too the top 1% of accounts

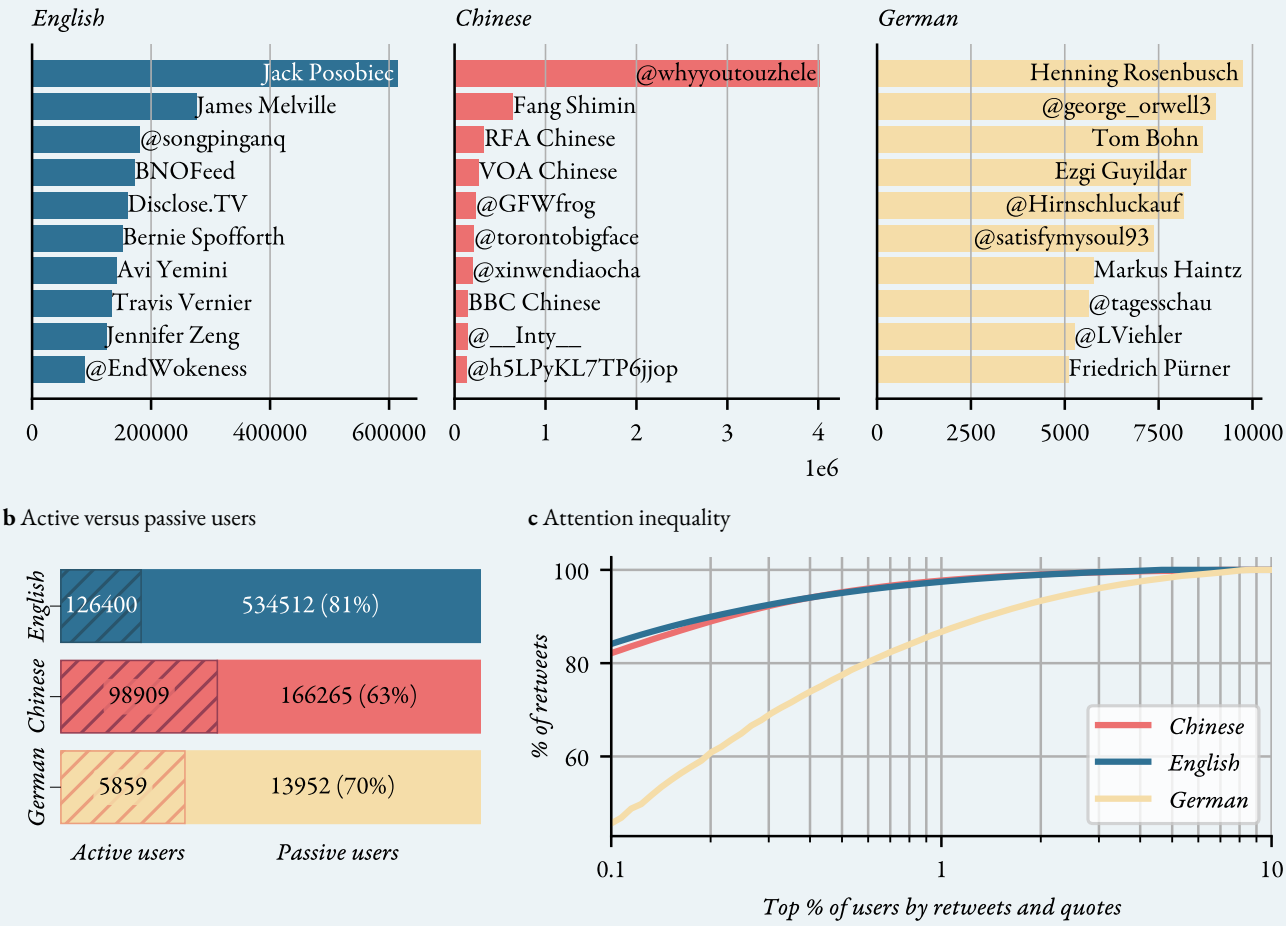


Figure 2: Statistics overview. **a** 10 largest accounts by retweets and quotes, for each language. **b** Number of active authors (tweeting or replying) vs. the number of passive authors (only retweeting), for each language. **c** Percentage of total retweets and quotes received by the largest accounts, x-axis log-scaled. As can be seen, the top 1% of accounts receive over 85% of retweets and quotes in the German sphere, and over 95% of retweets and quotes in the Sinosphere and Anglosphere. A user is associated with a language if the majority of their tweets is in that language.

(about 60) received more than 85% of retweets. The dominant voices in the Anglo- and Germanosphere were almost entirely populist actors. Tables 1–2 give a description of the central actors listed in figure 2a (see also fig. 1).

Good people versus Bad governments: drawing parallels between China and the West

The dominance of right-wing populists lead to various but often common patterns of reframing the ongoing protests in China in both the English and German-speaking spheres. The first, and perhaps most common strategy, was to amplify the prevailing populist narrative of the 'good people' vs. the 'evil elites'. In Figure 3a we show the most frequent words in the dataset, as well as how much more frequently than expected they occur relative to everyday usage (see Methods for details). Highlighted are several of the most prominent populist themes. In both the English- and German-speaking spheres, 'people' and 'citizens' ('Mensch' or 'Bürger' in German), and government ('Regierung') belong to the most frequently occurring words, used in the context of an oppressed people fighting an unreasonable and unjust system:

Protests are erupting across China as people have had

Name	Account	Political stance	Description
Jack Posobiec	@JackPosobiec	Populist-right (Valania, 2017; Marantz, 2017)	US-based political commentator and alt-right activist
James Melville	@JamesMelville	Populist-right (Falkenberg et al., 2022; Horton, 2024)	UK-based businessman and GB News pundit
Unknown	@songpinganq	Unknown	An English-speaking Twitter account with a self-proclaimed '[f]ocus on exposing [...] China's Surveillance State.'
BNOFeed	@BNOFeed	Neutral	International news agency headquartered in the Netherlands, providing news wire services to media organisations
Disclose.TV	@disclosetv	Populist-right (Schuhmacher, 2022)	English-language disinformation news outlet based in Germany
Bernie Spofforth	@BernieSpofforth	Populist-right (Falkenberg et al., 2022; Greenwood, 2024)	British anti-lockdown and anti-climate change campaigner
Avi Yemeni	@OzraeliAvi	Populist-right (McGowan, 2021)	Australia-based far-right wing political activist
Travis Vernier	@ElectionWiz	Populist-right (Gilbert, 2023)	US-based attorney and MAGA activist
Jennifer Zeng	@jenniferzeng97	Populist-right (Yang, 2022)	Chinese-born human rights activist and journalist, based in the US, affiliated with Falun Gong media and known to have actively disseminated misinformation
EndWokeness	@EndWokeness	Populist-right (Lorenz, 2023)	Described by the Washington Post as a 'high-profile far-right influencer'

Table 1: Description of the ten most retweeted English-speaking actors listed in fig. 2a.

> *enough of the draconian zero Covid lockdowns. This is what eventually happens when people power mobilises against oppressive governments that take away freedoms and human dignity.*—James Melville, Nov 27

> *The White Paper Revolution is an unprecedented uprising against the draconian Covid lockdowns of the CCP. The people [in] China join freedom fighters the world over who have fought against tyrannical Covid policies and the monsters who pushed them.* — Jack Posobiec, Nov 27

> *Die Bilder aus China, wo mutige Menschen gegen die Corona-Diktatur aufstehen, erschüttern.* (The images from China, where courageous people are standing up against the coronavirus dictatorship, are shocking) — @Hirnschluckauf, Dec 6

Attached to this last tweet is a video of a protest scene in Berlin in 2021, a form of sarcasm common for German-speaking tweets, where texts ostensibly condemning police violence against protesters in China often actually captioned videos of German police restraining anti-lockdown protests. As we demonstrate further on, German populists largely lacked real interest in ongoing events in China, instead instrumentalizing the protests to draw parallels between the pandemic control measures of the German and Chinese governments. By contrast, James Melville and Jack Posobiec construct their narrative in a more nuanced, sophisticated way. On the one hand, they laude Chinese people for their fight for freedom and human dignity, while condemning China's zero-Covid lockdowns. On the other hand, they group Chinese protesters into a unified camp of 'good people' in the world fighting 'oppressive governments' and 'the monsters' crafting 'tyrannical Covid policies'. Just as Chinese citizens were rising up against an authoritarian state, so too were Westerners fighting their own supposedly tyrannical and draconian Covid restrictions. This narrative redirects attention from Chinese news events to Western societies, from the conflict between Chinese protesters and the government to the core populist narrative about the antagonistic dichotomy of good people versus bad governments in democratic countries.

Name	Account	Political stance	Description
Henning Rosenbusch	@rosenbusch_	Populist-right	A self-described 'independent journalist' who has called German public media as 'ubiquitous propaganda and brainwashing'
Unknown	@george_orwell3	Populist-right (Kratzke, 2023)	Account suspended by X. Content includes Kremlin-sourced misinformation, Covid denialism, and vaccination conspiracies
Tom Bohn	@realTomBohn	Unknown	Tom Bohn: film director and coorganizer of #allesdichtmachen, an online protest of German filmmakers against Covid-containment measures (Dell, 2021)
Ezgi Guyildar	@Ezgi_Guyildar	Populist-left	Left-wing German politician for Die Linke
Unknown	@Hirnschluckauf	Populist-right	An anonymous account posting anti-immigration, anti-climate policy, and 'politically incorrect' content.
Unknown	@satisfymysoul93	Populist-right	Account posting anti-pluralism, anti-Ukraine, and pro-AfD content
Markus Haintz	@RA_MarkusHaintz	Populist-right (Zehring and Domahidi, 2023)	Lawyer and head of the Querdenken movement
Tagesschau	@tagesschau	Neutral	German news channel by one of the two major public broadcasters (ARD)
Unknown	@LViehler	Populist-right	Account description: Dr. Lockdown Viehler. Satirical account masquerading as the former director of the German federal health institute Dr. Lothar Viehler
Friedrich Pürner	@DrPuerner	Populist-left (Schuetze, 2023)	Doctor, former civil servant, and since 2024 member of the European Parliament for the new leftist party BSW

Table 2: Description of the ten most retweeted German-speaking actors listed in fig. 2a.

Casting Blame: Western Elites and the Mainstream Media

The salience of the juxtaposition of 'good' people vs. 'bad' governments is also evident in the accusations of hypocrisy levelled at Western elites and media, which became a central focus in populists' framing of the Chinese protests. Research on populism has identified various groups of 'elites' frequently subjected to populist attack, such as economic, political, scientific, or cultural elites (Mudde and Kaltwasser, 2017; Schwarzenegger and Wagner, 2023). Some of these appear in the English and German datasets (see fig. 3a). For instance, Apple and its CEO Tim Cook became a target of populist rage for two reasons: first, in late November 2022, workers at an iPhone plant in Zhengzhou owned by Foxconn, a contract manufacturer, protested against the prospect of being confined to factory dormitories with infected individuals, unable to work and consequently losing their salaries (Goh and Lee, 2022). Second, amid the demonstrations in China, Apple restricted its AirDrop file sharing functionality, preventing mass dissemination of video material in public spaces:

> *A reporter asked Tim [Cook] if he supported the Chinese people's right to protest, if he regrets shutting off AirDrop access for them and if he had any reaction to the factory workers who were beaten and detained for protesting lockdowns. He was silent.* — @ALX: Alex Lorusso, right-wing political strategist and Internet personality, Dec 2

The company was accused of being in cahoots with the Chinese government:

> *#Apple schränkt #AirDrop in China ein [und] stellt sich damit gegen den Freiheitswunsch der Chinesen und auf die Seite der kommunistischen Diktatur.* (Apple restricts AirDrop in China and thus stands against the Chinese people's desire for freedom and with the Communist dictatorship.) — @JoanaCotar: Joana Cotar, former AfD member of parliament, Nov 29

Note that, by contrast, Chinese accounts refer to 'Foxconn'

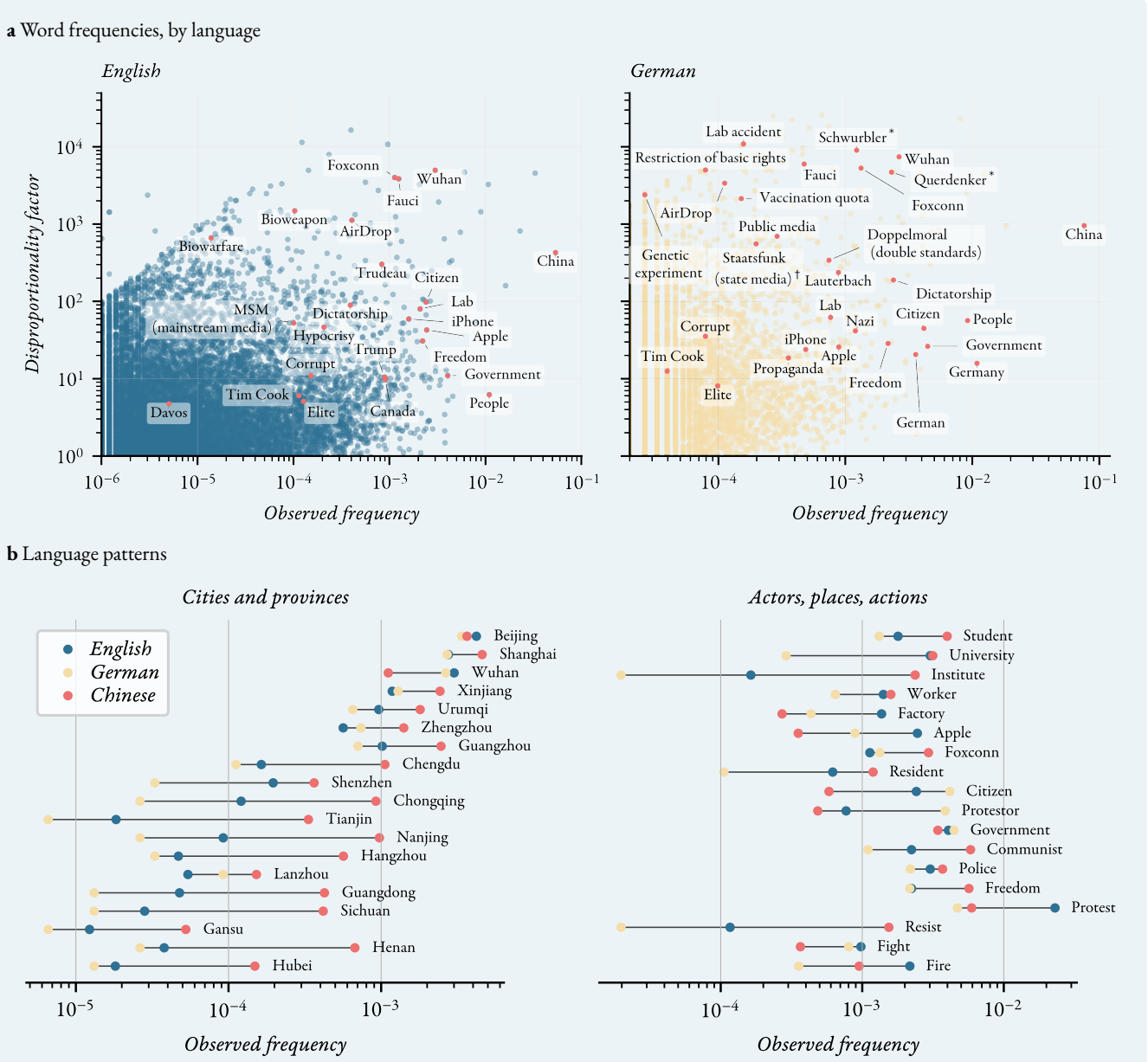


Figure 3: Language patterns overview. **a** Prominent populist themes in the dataset. Shown is the observed frequency f of words in the dataset (x-axis) and how much more likely they are to occur than in common language (f/f_E, where f_E is the expected frequency in common language, see Methods) (y-axis). Translations from the original German are used where unambiguous, and the original given where appropriate. *The two expressions 'Querdenker' and 'Schwurbler' are uniquely contextual expressions with no direct translation: they refer to sarcastically used derogations against anti-lockdown campaigners in Germany. †The term 'Staatsfunk' is a satirical term used to refer exclusively to German public broadcasters. **b** Language usage in English (blue dots), Chinese (red dots), and German tweets (yellow dots): shown on the x-axis is the observed frequency of Chinese cities and provinces (left) and actors, places, and actions (right) (log-scaled).

(富士康) much more frequently than to 'Apple'; for Western accounts, this is reversed.

Lou Dobbs, FoxNews commentator, on November 27 called on all 'commies and cons' to recognise that the Chinese government's 'draconian Covid restrictions' were what 'Davos man Klaus Schwab [CEO of the World Economic

Forum] calls a "model" for other nations', insinuating a nefarious cooperation between the CCP and an archetype of the 'economic elite', the Davos Forum.

Political elites, meanwhile, were frequently seen to be personified by senior healthcare officials, such as Anthony Fauci, former chief medical advisor to the US president, or Karl Lauterbach, the German health minister—both figures occur between 300 and 5,000 more frequently than expected, see fig. 3a. An equally prominent target of populist rage was Canadian Prime Minister Justin Trudeau, who in early 2022 had criticised a series of truck-driver protests against Covid measures in Canada. Populists turned this stance against him when he voiced support for the protesters in China:

> *The [mainstream media] are a pack of hypocrites in how they're reporting on the current Chinese freedom protests compared to the SAME rallies in the West. But the Canadian Prime Minister takes the cake. Because now Justin Trudeau STANDS WITH anti-lockdown protesters. But ONLY in China!* — Avi Yemeni, Nov 30

> *Justin Trudeau on the anti-lockdown protesters in China: 'Everyone in China should be allowed to express themselves.' He didn't allow his own citizens in Canada to do the same. He closed their bank accounts. Gargantuan hypocrisy."* — James Melville, Dec 4

'Hypocrisy' or 'double standards' (German 'Doppelmoral') are commonly used themes to blame Western politicians and the mainstream media for their different responses to protests in the West and in China:

> *Menschen in Deutschland gehen auf die Straße gegen die Corona-Maßnahmen. Unser Mainstream so: COVIDIOTEN! SCHWURBLER! NAZIS! Menschen in China gehen gegen die Zero-Covid-Politik Maßnahmen protestieren. Unser Mainstream so: Freiheitskämpfer! Helden! Was für eine Doppelmoral!* (People in Germany take to the streets to protest Covid restrictions. Our mainstream (press) is like: COVIDIOTS! WAFFLERS![3] NAZIS! People in China protest against the zero-Covid measures. Our mainstream is like: Freedom fighters! Heroes! What a double standard!) — Ezgi Guyildar, Dec 1

Some even go so far as to accuse the mainstream media of being paid and actively controlled by the government:

> *[As] world governments and their controlled media condemns [sic] the Chinese government's reaction to lockdown protests, they want you to forget they all did the same!.. with full support from the paid media.[...]* — Bernie Spofforth, Nov 29

This accusation is even more frequent in Germany, where the publicly funded broadcasters, ARD and ZDF, are vilified and accused of being propagandistic 'state media' (Holtz-Bacha, 2021; Rees and Papendick, 2021); note the much more frequent occurrence of terms such as 'ÖRR' (öffentlich-rechtlicher Rundfunk, public media), 'Staatsfunk' (state broadcaster, a satirical term referring only to German public media) and 'propaganda' in the German dataset, compared to equivalent terms in English.

Comparing the English and German Twitterspheres

A noticeable feature setting the German sphere apart from the Anglosphere is its marked lack of connectedness to and interest in specific events and conditions in China. German discussions were largely centred on domestic policies and German actors, with the words 'German' or 'Germany' prominently appearing in German tweets (fig. 3a) and a scarcity of details about China and its social conditions. Note that, compared to English, German tweets are far less specific in identifying the various groups of protesters, such as 'students' or 'workers', or the locations of protests, such as at universities, factories, or institutes (fig. 3b). In contrast, the Anglosphere demonstrates more insight into China and more sophistication in reframing of global news events. Among them, Jack Posobiec appears to be the most influential actor in shaping the narrative surrounding the protests in China. Mr Posobiec is a well-known political commentator and activist with alt-right leanings, who resided in Shanghai for two years and possesses some proficiency in the Chinese language (Marantz, 2017; Valania, 2017). He wrote or retweeted four tweets in Mandarin; his most retweeted post was his own translation of a Chinese tweet by Radio Free Asia Chinese:

[3] In German, the term 'Schwurbler' (from the verb 'schwurbeln', meaning 'to blather') had previously been used by German media to criticise German protesters. Similarly to the 'Querdenker' term, German anti-Covid protesters co-opted the term to refer to their ingroup, usually sarcastically.



Figure 4: Interaction between populists (dark green nodes), media accounts (blue), and Chinese accounts (red). Light grey: other. *Top row*: outgoing links from populist accounts to journalists. Both English and German populists refer to traditional media sites. Bottom row: outgoing links from populist and media accounts to Chinese users. We see that both English-speaking media and populists connect to Chinese accounts (left); in the German sphere, populists are entirely disconnected from the Chinese-language sphere. The size of each node is the total number of retweets. See tables S1–S2 in the appendix for additional user descriptions.

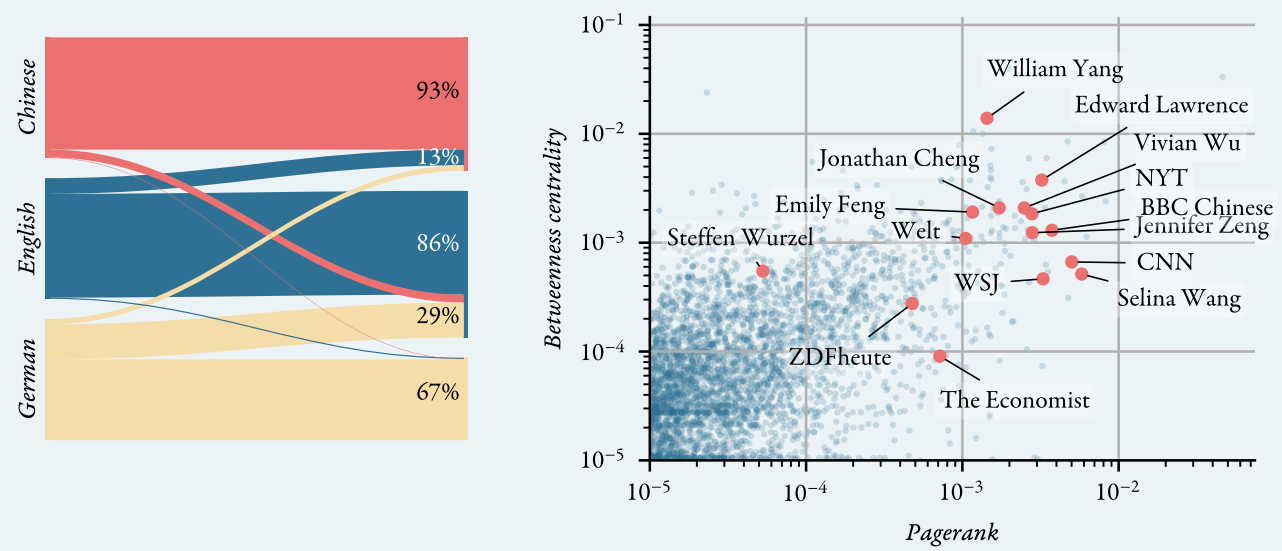


Figure 5: a Percentage of links connecting users tweeting in different languages. Most users reference other users from their own linguistic sphere. 13% of English users reference Chinese users, while only about 4% of German users connect to Chinese content. **b** Pagerank vs. betweenness centrality of all users. Both are measures of a user's 'importance' or 'centrality' to the network structure, with pagerank being based more on total number of citations, and betweenness centrality considering the network topology. See Methods.

> *BREAKING: In Wuhan the anti-lockdown protesters are tearing down barricades shouting "It started in Wuhan and it ends in Wuhan!"* — Nov 27

Beyond Wuhan, Mr Posobiec also posted information about protests and grievances caused by zero-Covid measures in other Chinese regions, at times with an almost journalistic tone:

> *The nationwide protests in China this weekend were sparked by a fire in the capital of Xinjiang where residents of an apartment building were trapped inside for months due to Covid lockdown and many burned alive. This has become a flashpoint igniting a fuse across the country.* —Nov 27

The fire in Urumqi on November 24 had indeed triggered the White Paper protests, a detail which is referenced five times more frequently in English than in German (see fig. 3b). Overall geographic specificity of English tweets is significantly higher, with actors mentioning not only conditions in the larger cities (Beijing, Shanghai) and prominently featured places (Urumqi, Xinjiang), but also in second- and third-tier cities and provinces (fig. 3b). Naturally, Chinese tweets are the most geographically specific—the sole exception being Wuhan, which is mentioned in Western tweets significantly more often than in Chinese tweets, due to the presence of the Wuhan lab-leak theory.

The lack of attention and engagement in the German narrative surrounding the protests in China is also reflected in the connectivity network between accounts. While 13% of all retweets, replies, or mentions originating in the Anglosphere link to a Chinese account, this figure drops to less than 5% in the German sphere (fig. 5a). German populists rarely, if ever, draw upon Chinese actors as sources for their information, instead using mainstream media outlets or English-speaking accounts. By contrast, the English sphere is tied to the Chinese sphere through its ethnic Chinese or Chinese-born populations, which function as sources in the flow of information (see also fig. 4). Reporters, activists, and commentators such as Selina Wang, Vivian Wu, William Yang, or Emily Feng, and media outlets such as Radio Free Asia, BBC World, or BBC Chinese serve as connecting nodes between the language spheres (see fig. 5b), something the German sphere is mostly lacking. One notable exception is Jennifer Zeng, the only media worker of Chinese origin in our dataset who was widely retweeted by both English and German populists. Zeng works with media outlets from Epoch Media Group, a multi-language media company affiliated with the Falun Gong movement

that was repressed by the Chinese government. Founded by Chinese dissidents in the United States, Epoch Media Group has now become an influential actor of alternative media for far-right populists in various Western countries (Allen-Ebrahimian, 2017; Roose, 2020). Although Ms. Zeng has been identified being a key figure in disseminating rumors in another China-related event (Yang, 2022), her tweets about the White Paper protests were similar to those of other mainstream journalists: reposting video materials from China and adding contextual explanations in English. For this reason, we have classified her as 'media' in figure 4.

In their analysis of the debates among the Chinese diaspora, Zeng and Cheng (2024) found a particularly active subcluster in the network around Guo Wengui, a Chinese billionaire and convicted fraudster living in exile in the US. Mr Guo has ties to right-wing figures such as Steve Bannon and Donald Trump, and has been known to spread misinformation about the pandemic and vaccines (Qin et al., 2020; Forsythe, 2024). During the protests, Mr Guo's Twitter account (@fengyunshe) was highly active, tweeting footage and accounts of the protests. Our dataset contains over 250 tweets by Mr Guo; however, we found that his influence beyond the Chinese-language sphere was limited. Remarkably, Western populists did not use Mr Guo's tweets as fodder for their own reframing of the White Paper protests, despite his connections to prominent figures in the alt-right. In our analysis, Mr Guo obtains a pagerank of 0.0001 and a betweenness centrality of less than 1e-5—values well below those of @whyyoutouzhele (pagerank 0.05, betweenness centrality 0.03), as well as that of more reputable journalists and sources (see figs. 4–5 and Methods).

Traditional journalism: sidelined and demonised

In the English-speaking online sphere, mainstream media and journalists were far from the forefront of discussions, and were chiefly used as a source of footage and material to 'spin'. In the top 20 most retweeted accounts, only three correspondents from mainstream sources are present: Selina Wang (CNN China correspondent), Vivian Wu (former BBC Hong Kong Bureau editor), and Emily Feng (NPR China correspondent). All three are Mandarin speakers and were thus able to provide reports and context, which was subsequently reframed and reinterpreted by the dominant populist voices. This is also reflected in the high pagerank and betweenness centrality (eqs. (1)–(2)) we see of many mainstream news outlets and their reporters, including CNN, The New York Times, or the BBC (fig. 5b). Instead of functioning as information editors, examining and explaining the protests, mainstream media were often themselves a target of populist anger on Twitter. This is particularly pronounced in the German sphere, for the reasons given above. We found the most active German accounts in terms of tweets posted to be the two public broadcasters ARD and ZDF and their respective newscasts ('@tagesschau' and '@ZDFheute'), totalling almost 60 tweets on the topic. However, their posts were not as widely retweeted as those posted by populist accounts. Significantly, we found that these two accounts in particular ('Tagesschau' and 'ZDFheute') received the largest number of replies under their tweeted reports of the protests in China (2,378). Of these, the overwhelming majority—1,867 or 78.5%—were highly antagonistic in tone, accusing the media of hypocrisy, spreading government propaganda, or being in cahoots with an equally oppressive or totalitarian system. These findings align with a prior study on Twitter network polarisation in Brazil, which found that traditional media to have a higher attraction factor on replies. While retweets reinforce ideological views within echo chambers, replies often include opposing users (Kamienski et al., 2023). Notably, we did not record a single instance of media outlets responding to or refuting any such hostile reactions.

Discussion

This study provides an in-depth analysis of how populist narratives shaped the framing of China's anti-zero-Covid protests across English- and German-language Twitter-spheres. Right-wing populists dominated the discourse, portraying the protests as yet another battle between 'good' citizens and 'oppressive' governments. A small group of influential accounts concentrated discursive authority, highlighting the disproportionate role populist actors play in contemporary political debates. The scale of our dataset—comprising over 2 million non-Chinese tweets—underscores the significance of this finding and its implications for democratic systems.

Western populists framed the White Paper protests not as a struggle between Chinese citizens and their government but as a parallel to their own domestic conflicts, drawing a false equivalence between the two. Their rhetoric echoed the narrative used by Western media, which tends to favor

anti-regime forces in non-democratic contexts (Baum and Zhukov, 2015), inadvertently reinforcing populist imagery of 'the people' versus 'the elite.' This conceptual overlap between populism in democratic societies and popular protest in authoritarian states is largely overlooked in existing research. Populists exploited this gap, accusing mainstream media of hypocrisy—supporting Chinese protesters while denouncing similar movements in the West. This was particularly pronounced in German-language discourse, where public broadcasters were vilified as mouthpieces of authoritarianism, facing overwhelming sarcasm and hostility. Our findings underscore the need for further research into this dynamic: populism does not operate in isolation within democracies but increasingly interacts with authoritarian countries. While we do not resolve this issue here, our freely available dataset offers an opportunity for comparative analysis.

Two broader conclusions emerge. First, beyond spreading misinformation, populists strategically reframed factual news to fit their narratives. This tactic was central to their success in shaping the discourse on the protests. While much scholarship focuses on populists' use of falsehoods to undermine democratic trust, our findings suggest a more nuanced communication strategy. Many populists actively sourced credible reports, with some English-language actors even accessing Chinese-language sources to provide detailed, accurate accounts—only to embed them within their own ideological frameworks. Crucially, they avoided unreliable sources like Guo Wengui, further demonstrating their selective approach. Misinformation did not dominate the discussion; instead, strategic reframing blurred the line between objective reporting and narrative manipulation. Traditional media largely ignored populist reinterpretations of their own coverage, despite the growing need to counter this subtler form of discursive distortion. While research on combating misinformation is extensive, the challenge of addressing narrative reframing remains underexplored.

Second, the protests revealed the declining editorial and interpretative power of traditional media on social media. As digital platforms become central to global news consumption, legacy outlets no longer exercise exclusive control over issue framing. Instead, news circulates within a highly interconnected digital infosphere, where cross-language and cross-border populist narratives take on a life of their own. This was especially apparent in the English-language sphere, whereas German populists engaged less with Chinese sources and relied more on secondary reporting. Yet in both cases, populist actors repurposed global events to serve domestic agendas. Rather than bypassing mainstream media, they co-opt it—using established outlets as raw material while retaining control over interpretation. Populist reframing of the White Paper protests is by no means an isolated incident: after the manipulation of the 2024 Venezuelan election by Maduro-loyalists, right-wing Trump supporters drew comparisons to the U.S., decrying a 'stolen' election and a system riddled with 'fraud', and equating Kamala Harris with Nicolás Maduro:

> *Venezuela's socialist dictator Nicolás Maduro and his regime just issued an arrest warrant against opposition candidate Edmundo Gonzalez for questioning the results of the recent election. This is a textbook copy of what American Democrats did to President Trump* [...] —George Behizy (@BehizyTweets), American right-wing content creator, Sept 2 2024

Elon Musk expressed a similar position in July 2024 (Camacho, 2024), stating the risk of the United States becoming Venezuela was 'very real'. A comparative study of such reframing of global events, though beyond the scope of this work, would shine more light on modern populist communication strategies.

References

Allen-Ebrahimian, B. (2017). The German Edition of the Falun Gong-Affiliated 'Epoch Times' Aligns with the Far Right. https://www.chinafile.com/reporting-opinion/media/german-edition-of-falun-gong-affiliated-epoch-times-aligns-far-right. [Accessed 21-08-2024].

Alston, P. (2017). The Populist Challenge to Human Rights. *Journal of Human Rights Practice*, 9(1):1–15.

Andreotta, M., Nugroho, R., Hurlstone, M. J., Boschetti, F., Farrell, S., Walker, I., and Paris, C. (2019). Analyzing social media data: A mixed-methods framework combining computational and qualitative text analysis. *Behavior Research Methods*, 51:1766–1781.

Baum, M. A. and Zhukov, Y. M. (2015). Filtering revolution: Reporting bias in international newspaper coverage of the Libyan civil war. *Journal of Peace Research*, 52(3):384–400.

Berman, S. (2021). The Causes of Populism in the West. *Annual Review of Political Science*, 24(Volume 24, 2021):71–88.

Boberg, S., Quandt, T., Schatto-Eckrodt, T., and Frischlich, L. (2020). Pandemic populism: Facebook pages of alternative news media and the corona crisis – a computational content analysis.

Brubaker, R. (2020). Populism and nationalism. *Nations and Nationalism*, 26(1):44–66.

Camacho, P. (2024). Elon Musk on claim that U.S. might 'become Venezuela' under Harris: 'risk of this is very real'. *Latin Times*.

Cervi, L., García, F., and Marín-Lladó, C. (2021). Populism, Twitter, and COVID-19: Narrative, Fantasies, and Desires. *Social Sciences*, 10(8).

Che, C., Buckley, C., Chien, A. C., and Dong, J. (2022). China Stems Wave of Protest, but Ripples of Resistance Remain (Published 2022) — nytimes.com. https://www.nytimes.com/2022/12/05/world/asia/china-covid-protests.html. [Accessed 06-08-2024].

Chin, J. (2022). What the Protests in China and Iran Are Really About. https://www.usnews.com/news/best-countries/articles/2022-11-29/what-the-protests-in-china-and-iran-are-really-about. [Accessed 06-08-2024].

Cinelli, M., Quattrociocchi, W., Galeazzi, A., Valensise, C. M., Brugnoli, E., Schmidt, A. L., Zola, P., Zollo, F., and Scala, A. (2020). The covid-19 social media infodemic. *Scientific Reports*, 10(1):16598.

Dale, G. (2022). China's 'white paper' protest movement echoes freedom struggles across Asia and the world — theconversation.com. https://theconversation.com/chinas-white-paper-protest-movement-echoes-freedom-struggles-across-asia-and-the-world-195487. [Accessed 06-08-2024].

Dehghan, E., Bruns, A., Mitchell, P., and Moon, B. (2020). Discourse-analytical studies on social media platforms: A data-driven mixed-methods approach. In *Producing Theory in a Digital World 3.0: The Intersection of Audiences and Production in Contemporary Theory*, volume 3, pages 159–177. Peter Lang.

Dell, M. (2021). Meinungsvielfalt war nicht erwünscht. https://www.deutschlandfunkkultur.de/recherche-zu-alles-dichtmachen-meinungsvielfalt-war-nicht-100.html. [Accessed 07-08-2024].

Eberl, J.-M., Huber, R. A., and Greussing, E. (2021). From populism to the "plandemic": why populists believe in covid-19 conspiracies. *Journal of Elections, Public Opinion and Parties*, 31(sup1):272–284.

Engesser, S., Fawzi, N., and Larsson, A. O. (2017). Populist online communication: introduction to the special issue. *Information, Communication & Society*, 20(9):1279–1292.

Falkenberg, M., Galeazzi, A., Torricelli, M., Di Marco, N., Larosa, F., Sas, M., Mekacher, A., Pearce, W., Zollo, F., Quattrociocchi, W., and Baronchelli, A. (2022). Growing polarization around climate change on social media. *Nature Climate Change*, 12(12):1114–1121.

Fernandes, G. A. d. A. L. and de Almeida Lopes Fernandes, I. F. (2022). Populism and health. an evaluation of the effects of right-wing populism on the covid-19 pandemic in brazil. *PLOS ONE*, 17(12):1–13.

Foreign Correspondents Club China (2022). Zero Covid, Many Controls: Covering China in 2022.

Forsythe, M. (2024). Chinese Billionaire and Bannon Ally Is Convicted of Fraud. https://www.nytimes.com/2024/07/16/nyregion/guo-wengui-fraud-trial-verdict-china.html. [Accessed 16-08-2024].

Frei, N., Schäfer, R., and Nachtwey, O. (2021). Die Proteste gegen die Corona-Maßnahmen. Eine soziologische Annäherung. *Forschungsjournal Soziale Bewegungen*, 34(2):249–258.

Gerbaudo, P. (2018). Social media and populism: an elective affinity? *Media, Culture & Society*, 40(5):745–753.

Gilbert, D. (2023). MAGA's 'Election Wizard' Conspiracy Theorist Is Actually an Oklahoma Cop. https://www.vice.com/en/article/election-wizard-travis-vernier/. [Accessed 07-08-2024].

Goh, B. and Lee, Y. (2022). Huge Foxconn iPhone plant in China rocked by fresh worker unrest. https://www.reuters.com/technology/foxconns-zhengzhou-plant-hit-by-fresh-worker-unrest-social-media-livestreams-2022-11-23/. [Accessed 07-08-2024].

Greenwood, X. (2024). Southport stabbings: how online disinformation ignited unrest across the UK. https://www.tortoisemedia.com/2024/08/02/southport-stabbings-how-online-disinformation-ignited-unrest-across-the-uk/. [Accessed 07-08-2024].

Holtz-Bacha, C. (2021). The kiss of death. public service media under right-wing populist attack. *European Journal of Communication*, 36(3):221–237.

Honnibal, M., Montani, I., Ladeghem, S. V., and Boyd, A. (2023). spacy: Industrial-strength natural language processing in python. https://zenodo.org/records/10009823.

Hopster, J. (2021). Mutual affordances: the dynamics between social media and populism. *Media, Culture & Society*, 43(3):551–560.

Horton, H. (2024). Sunak stands with net zero and climate conspiracy group at farming protest. https://www.theguardian.com/politics/2024/feb/25/sunak-stands-with-net-zero-and-climate-conspiracy-group-at-farming-protest. [Accessed 07-08-2024].

Inglehart, R. and Norris, P. (2017). Trump and the Populist Authoritarian Parties: The Silent Revolution in Reverse. *Perspectives on Politics*, 15(2):443–454.

Kamienski, C., de Camargo Penteado, C. L., Goya, D., Rocha, R. V., de Souza, L. M., Gênova, D. V. B. d., Ramos, D. F. S., de França, F. O., Horita, F., and Santos, C. d. S. d. (2023). Measuring Network Polarization and Political Sectarianism During the 2020 Pandemic. *IEEE Transactions on Computational Social Systems*, 10(3):1356–1371.

Kratzke, N. (2023). How to Find Orchestrated Trolls? A Case Study on Identifying Polarized Twitter Echo Chambers. *Computers*, 12(3).

Kretschmer, F. (2022). "China ist ein Land, keine Partei!". https://www.rnd.de/politik/china-proteste-gegen-null-covid-politik-ausgeweitet-hunderte-demonstrieren-in-peking-D6GNQL35GJF4HEETTC3EGDWHZQ.html. [Accessed 06-08-2024].

Langville, A. N. and Meyer, C. D. (2005). A survey of eigenvector methods for web information retrieval. *SIAM Review*, 47(1):135–161.

Lehmann, P. and Zehnter, L. (2022). The self-proclaimed defender of freedom: The afd and the pandemic. *Government and Opposition*, page 1–19.

Lorenz, T. (2023). Far-right Twitter influencers first on Elon Musk's monetization scheme. https://www.washingtonpost.com/technology/2023/07/13/twitter-creators-payments-right-wing/. [Accessed 07-08-2024].

Low, D. (2024). China's Chronic Zero COVID Trauma. https://thediplomat.com/2024/02/chinas-chronic-zero-covid-trauma/. [Accessed 16-08-2024].

Marantz, A. (2017). The Far-Right American Nationalist Who Tweeted #MacronLeaks. https://www.newyorker.com/news/news-desk/the-far-right-american-nationalist-who-tweeted-macronleaks. [Accessed 07-08-2024].

McGowan, M. (2021). Workers' rights or the far right: who was behind Melbourne's pandemic protests? https://www.theguardian.com/australia-news/2021/sep/25/workers-rights-or-the-far-right-who-was-behind-melbournes-pandemic-protests. [Accessed 07-08-2024].

Mudde, C. and Kaltwasser, C. R. (2017). *Populism: A Very Short Introduction*. Oxford University Press.

Müller, J.-W. (2016). *What Is Populism?* University of Pennsylvania Press, Philadelphia.

Neumayer, E., Pfaff, K. G., and Plümper, T. (2024). Protest against covid-19 containment policies in european countries. *Journal of Peace Research*, 61(3):398–412.

Olivas Osuna, J. J. and Rama, J. (2022). Recalibrating populism measurement tools: Methodological inconsistencies and challenges to our understanding of the relationship between the supply- and demand-side of populism. *Frontiers in Sociology*, 7.

Page, L., Brin, S., Motwani, R., and Winograd, T. (1998). The PageRank Citation Ranking: Bringing Order to the Web. Technical report, Stanford Digital Library Technologies Project.

Pew Research Center (2021). News consumption across social media in 2021. https://www.pewresearch.org/journalism/2021/09/20/news-consumption-across-social-media-in-2021/. Accessed: 2025-02-24.

Pew Research Center (2022). Twitter is the go-to social media site for U.S. journalists, but not for the public. https://www.pewresearch.org/short-reads/2022/06/27/twitter-is-the-go-to-social-media-site-for-u-s-journalists-but-not-for-the-public/. Accessed: 2025-02-24.

Priyanta, S. and Trisna, I. N. P. (2019). Social network analysis of twitter to identify issuer of topic using pagerank. *International Journal of Advanced Computer Science and Applications*, 10(1).

Qin, A., Wang, V., and Hakim, D. (2020). How Steve Bannon and a Chinese Billionaire Created a Right-Wing Coronavirus Media Sensation. https://www.nytimes.com/2020/11/20/business/media/steve-bannon-china.html. [Accessed 16-08-2024].

Rees, Y. P. M. and Papendick, M. (2021). *Misstrauen gegenüber Medien zwischen Populismus, Rechtspopulismus und Rechtsextremismus*, pages 123–129. Dietz.

Ringe, N. and Rennó, L. R., editors (2023). *Populists and the Pandemic: How Populists Around the World Responded to Covid-19.* Routledge, London/New York.

Rodrik, D. (2021). Why Does Globalization Fuel Populism? Economics, Culture, and the Rise of Right-Wing Populism. *Annual Review of Economics*, 13(Volume 13, 2021):133–170.

Roose, K. (2020). How The Epoch Times Created a Giant Influence Machine. https://www.nytimes.com/2020/10/24/technology/epoch-times-influence-falun-gong.html. [Accessed 21-08-2024].

Schmuck, D. and Hameleers, M. (2020). Closer to the people: A comparative content analysis of populist communication on social networking sites in pre- and post-election periods. *Information, Communication & Society*, 23(10):1531–1548.

Schuetze, C. F. (2023). Leftist Upstart Threatens to Shake up German Politics. https://www.nytimes.com/2023/10/23/world/europe/germany-leftist-populist-party-wagenknecht.html. [Accessed 08-08-2024].

Schuhmacher, E. (2022). Disclose.TV: English disinformation made in Germany. https://www.dw.com/en/disclosetv-english-disinformation-made-in-germany/a-60694332. [Accessed 07-08-2024].

Schwarzenegger, C. and Wagner, A. (2023). Digital Memory and Populism| Commemorative Populism

in the COVID-19 Pandemic: The Strategic (Ab)use of Memory in Anti-Corona Protest Communication on Telegram. *International Journal of Communication*, 17(0).

Shen, L. (2022). Chinese Tweeter in Exile Ran One-Man Information Hub on Protests. https://www.wsj.com/articles/chinese-tweeter-in-exile-ran-one-man-news-hub-on-protests-11670958834. [Accessed 16-08-2024].

Sobczak, M. and Pawliczak, R. (2023). Was China's zero-COVID policy the right choice? The multiple factor analysis of variables that affected the course of COVID-19 pandemic in China. *Frontiers in Public Health*, 11.

Statista (2022). Most liked type of content on Twitter worldwide 2022. https://www.statista.com/statistics/1310989/most-liked-type-of-content-on-twitter/. Accessed: 2025-02-24.

Stavrakakis, Y. and Katsambekis, G. (2020). Populism and the pandemic: A collaborative report. *"POPULISMUS Interventions"*, 7.

Taraktaş, B., Esen, B., and Uskudarli, S. (2024). Tweeting through a Public Health Crisis: Communication Strategies of Right-Wing Populist Leaders during the COVID-19 Pandemic. *Government and Opposition*, 59(1):207–228.

Tumber, H. and Waisbord, S., editors (2021). *The Routledge Companion to Media Disinformation and Populism*. Routledge.

Valania, J. (2017). How Jack Posobiec Became the King of Fake News. https://www.phillymag.com/news/2017/09/16/jack-posobiec-trump-fake-news/. [Accessed 07-08-2024].

Vieten, U. M. (2020). The "New Normal" and "Pandemic Populism": The COVID-19 Crisis and Anti-Hygienic Mobilisation of the Far-Right. *Social Sciences*, 9(9).

von Nordheim, G., Boczek, K., and Koppers, L. (2018). Sourcing the sources: An analysis of the use of Twitter and Facebook as a journalistic source over 10 years in *The New York Times*, *The Guardian*, and *Süddeutsche Zeitung*. *Digital Journalism*, 6(7):807–828.

Vosoughi, S., Roy, D., and Aral, S. (2018). The spread of true and false news online. *Science*, 359(6380):1146–1151.

Yan, K., Jiang, S., Xia, L., Jin, T., Dai, A., Gu, C., and Li, A. (2023). China's zero-COVID policy and psychological distress: a spatial quasi-experimental design. *Journal of Social Policy*, page 1–18.

Yang, Z. (2022). How the false rumor of a Chinese coup went viral. https://www.technologyreview.com/2022/09/27/1060131/twitter-misinformation-coup-china-india/. [Accessed 07-08-2024].

Zanotti, L. and Turnbull-Dugarte, S. J. (2022). Surviving but not thriving: Vox and spain in times of covid-19. *Government and Opposition*, page 1–20.

Zarocostas, J. (2020). How to fight an infodemic. *The Lancet*, 395(10225):676.

Zehring, M. and Domahidi, E. (2023). German Corona Protest Mobilizers on Telegram and Their Relations to the Far Right: A Network and Topic Analysis. *Social Media + Society*, 9(1):20563051231155106.

Zeng, J. and Cheng, C. Y. (2024). Diasporic citizen journalism: Exploring the discussion on the 2022 blank paper protests in the Chinese twitter community. *Journalism*, 0(0):14648849241250191.

Zulianello, M. and Guasti, P. (2023). The demand and supply of pandemic populism: A global overview. *Government and Opposition*, page 1–20.

Competing interests

The authors declare no competing interests.

Data availability

Data and code is available at the following repository: https://zenodo.org/records/13764741. This repository contains all code and data to reproduce the figure plots, as well as the dataset of raw tweets.

Ethical approval

This manuscript requires no ethical approval.

Informed consent

This article does not contain any studies with human participants performed by any of the authors.

Author contributions

These authors contributed equally to this work.

Supporting Information

Additional user classifications

The following tables list descriptions for users mentioned in the text and shown in figure 4 that were not previously classified in tables 1–2. Users are sorted alphabetically by their names and then their Twitter handles, where names are unknown.

Table S1: Description of journalists mentioned in figures 1, 4, and 5b.

Name	Account	Description
Edward Lawrence	@EP_Lawrence	China and Asia-Pacific reporter for the BBC
Eva Rammeloo	@efjerammelloo	Dutch China correspondent
Frank Lübberding	@luebberding	German journalist for Welt and FAZ
Jonathan Cheng	@JChengWSJ	China Bureau Chief, Wall Street Journal
Julian Reichelt	@jreichelt	Former senior editor at BILD, Germany's largest tabloid
Miriam Steimer	@miriamsteimer	China and East Asia reporter for ZDF
RND	@RND_de	Redaktionsnetzwerk Deutschland
Steffen Wurzel	@SteffenWurzel	ARD reporter, former China correspondent for ARD
Su Yutong	@Suyutong	Journalist with Radio Free Asia
Tim Röhn	@Tim_Roehn	Journalist for Welt
Tom Mackenzie	@TomMackenzieTV	Bloomberg reporter, host of "Daybreak Europe"
William Yang	@WilliamYang120	Deutsche Welle China correspondent
Yang Xifan	@yangxifan	Journalist and reporter for ZEIT
	@pm_cheung	Journalist and photographer based in Berlin

Table S2: Description of user accounts classified as 'populist-right' shown in figure 4.

Name	Account	Description
Alex Berenson	@AlexBerenson	Former New York Times reporter turned right-wing political commentator, who disseminated disinformation about Covid-19
Alex Lorusso	@ALX	Pro-Trump political commentator and executive producer of the Benny Show (with Benny Johnson)
Ben Shapiro	@benshapiro	American right-wing political commentator
Benny Johnson	@bennyjohnson	American right-wing political commentator, contributor to Breitbart, associated with Turning Point USA
Christina Pushaw	@ChristinaPushaw	Republican aide to Ron DeSantis' presidential campaign
Chuck Callesto	@ChuckCallesto	Pro-Trump political commentator and conspiracy theorist
Clay Travis	@ClayTravis	Pro-Trump American writer, lawyer, and radio host associated with Covid denialism
Efrain Monsanto	@realmonsanto	Canadian board member of Rebel News, a far-right news website
Kyle Becker	@kylenabecker	Pro-Trump FoxNews contributor
Hodgetwins	@hodgetwins	Pro-Trump conservative comedic double act

Continued on next page

Table S2: Description of user accounts classified as 'populist-right' shown in figure 4. (Continued)

Jayne Zirkle	@JayneZirkle	Pro-Trump reporter for Steve Bannon's 'War Room'; former assistant to Rudy Giuliani
Jordan Peterson	@jordanpeterson	Canadian psychologist and conservative political activist
Marco Altinger	@altinger4la	Anti-immigration commentator for Deutschland Kurier, an AFD-affiliated online platform
Marjorie Taylor-Greene	@RepMTG	Pro-Trump Republican congresswoman, MAGA affiliated
Marsha Blackburn	@MarshaBlackburn	Pro-Trump US Republican senator for Tennessee
Mike Pompeo	@mikepompeo	Trump-era director of the CIA and Trump loyalist
Ron DeSantis	@GovRonDeSantis	Right-wing pro-Trump Republican governor of Florida
Stephan Gasteyger	@sgasteyger	German real estate investor, anti-immigration, pro-AfD
TrueNorthCentre	@TrueNorthCentre	Canadian far-right news outlet
Yan Limeng	@DrLiMengYAN1	Chinese virologist and exile in the US, claiming in various right-wing media that Chinese officials had intentionally released the Covid virus
	@Eddie_1412	German pro-AfD, 'anti-woke' Twitter account
	@FrankfurtZack	German-speaking Twitter account posting Covid-sceptic and anti-immigration content
	@HubertWald1	German anti-mainstream media, anti-communist, anti-green, anti-woke account
	@MrsMertes	German anti-Covid, anti-woke user
	@postmelown	German anti-Covid account
	@oida_grantler	German anti-mainstream media Twitter user
	@taranti1961	German anti-immigration, anti-establishment account
	@terran_liberty	German anti-woke account
	@TimRealityDE	German anti-Covid, anti-establishment, pro-Trump account
	@Unwoke_Berlin	Account since removed; anti-woke German-language Twitter account