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Schneider, F.A.

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Emergent nationalism in China's sociotechnical networks: How technological affordance and complexity amplify digital nationalism

Florian Schneider

Leiden University Institute for Area Studies, Leiden University, Leiden, The Netherlands

Correspondence
Dr. Florian Schneider, Leiden University Institute for Area Studies, Leiden University, P.O.Box 9515, 2300 RA Leiden, The Netherlands.
Email: f.a.schneider@hum.leidenuniv.nl

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Abstract

Nationalism today interacts in complicated ways with advanced information and communication systems, regularly leading to unanticipated consequences. Popular online nationalism in the People's Republic of China (PRC) is a case in point: In the PRC, digital nationalism has become a central feature of political discourse and decision-making, at times powerfully shaping the state's policy efforts. This article explores a missing puzzle piece in how state-led and popular nationalism interact in Chinese politics: the role that advanced information and communication technologies play in such processes. This is a question that is not only relevant to scholars of China but also to anyone interested in the role that digital media and communication play in the formation and spread of contemporary nationalism. How do interactions in complex sociotechnical systems affect nationalism today? To answer this question, the article analyses and traces interaction and feedback loops in Chinese digital environments during Sino-Japanese disputes over the East China Sea. It shows how the interactions between humans, organisations and technologies create unexpected variations in outcome that resonate through China's internet and create the conditions from which digital nationalism

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can powerfully emerge to shape legitimation and policy-making processes.

KEYWORDS
affordance, China, complexity, digital media, emergent properties, nationalism, networks, Sino-Japanese relations

1 | INTRODUCTION

Nationalism today interacts in complicated ways with advanced information and communication systems, regularly leading to unanticipated consequences. Take the example of the People's Republic of China (PRC), where elites believe in the necessity (and their ability) "to create a healthy network environment" through "guidance of network public opinion" (Liu & Wang, 2020: 9; see Zhang, 2018 for a critical discussion). State-led nationalism plays an important role in this context, and China's leadership unapologetically insists that public opinion work is necessary to "rally support for achieving the Chinese dream of the great rejuvenation of the nation" (China Daily, 2016). Through its media management (Brady, 2008; Zhang, 2011; Zhao, 2008), the Chinese Communist Party (CCP) legitimates itself and its actions, and it promotes its carefully designed "pragmatic nationalism" (Zhao, 2004) as a largely standardised set of semantic and aesthetic resources for citizens to make sense of politics (see also Benney, 2020).

Yet such state-led nationalism does not exist in a vacuum. It is disseminated, adapted, negotiated, contested and redeployed by a dizzying array of actors who interact in China's digital communication and media networks. The results are various streams of popular nationalism that do not neatly align with official preferences and that can develop lives of their own (Gries, 2004), despite at times heavy-handed state efforts to control online expression and keep nationalist sentiments on brand.

Examples of this protracted relation between state-led efforts and digital popular sentiments abound. During the 2008 Sichuan Earthquake, when the Chinese authorities had planned to accept relief efforts from the Japanese government, online users intervened and stopped the much-needed aid, evoking the history of Japanese imperial invasion on Chinese soil to criticise the PRC government's attempt at collaboration (Wang & Okano-Heijmans, 2011: 137–138). Four years later, online reactions to Sino-Japanese territorial disputes spilled into the streets as large-scale protests and even turned against Chinese citizens who had bought Japanese cars or who ran Japanese restaurants (Chubb, 2012); scholarship on these events suggests that nationalist online debates informed the street protests and that they at least to some extent shaped official military strategy vis-à-vis Japan at that time (Gries et al., 2016). More recently, as COVID-19 became a nationalist rallying point for the Chinese authorities, internet users from China attacked those who had criticised the PRC's handling of the pandemic (Wang & Tsoi, 2021); they would later move the discussion into explicitly xenophobic territory, spreading nationalist conspiracy theories and inflammatory misinformation that placed the blame for the pandemic at the feet of the US government (Chen et al., 2020), African immigrants (Wang & Qin, 2020), foreigners more broadly (Walden & Yang, 2020), and Chinese citizens returning from abroad (Jung, 2020).

Scholars in Chinese studies are divided over the question of how the popular nationalism that circles through China's digital networks relates to state policy. Some assert that popular sentiments do not affect political decision-making in China, arguing that the authoritarian political system and its strongman leaders are impervious to public opinion (Jie, 2016). Others make the case that Chinese officials are cleverly and successfully using the PRC's expansive propaganda and censorship system to manipulate public discussions for their own gains (Chen Weiss, 2014; Reilly, 2012). In this interpretation, actors at the central government level are able to improve their bargaining position vis-a-vis their foreign counterparts, for instance, by claiming (presumably disingenuously) that their foreign policy actions are regrettably constrained by the risk of violent uprisings at home. Yet others (e.g., Gries, 2004) have

argued that Chinese leaders are not fully in control of popular nationalism, as much as they might wish or even believe they were. This line of scholarship makes the case that Chinese politicians are responsive to popular sentiments and that the reason for this lies in the legitimacy rationale that the party established throughout the reform period (Gries et al., 2016). Such an explanation would be in line with the extensive research on legitimation practices in the PRC (Holbig & Gilley, 2010; Sandby-Thomas, 2011; Schubert, 2008, 2014), which has repeatedly shown that attempts to justify CCP rule are not merely propaganda or lip-service to hollow ideological concepts but in fact a core driver behind China's highly adaptive political and organisational system.

These debates about popular nationalism and legitimation in China have moved forward our understanding of how state-led nationalism and popular sentiments connect to create political outcomes. Nevertheless, they are missing an important puzzle piece that this article hopes to explore: the role that advanced information and communication technologies (ICT) play in such processes. This is a question that is not only just relevant to scholars of China but also to anyone interested in the role that digital media and communication play in the formation and spread of contemporary nationalism. How do interactions in complex sociotechnical systems affect nationalism today?

I have previously argued that digital nationalism is "a consequence of technological affordances, economic incentives, and policy choices" (Schneider, 2018: 197) and "an emergent property of communication networks" (ibid.: 7). However, I have largely side-stepped the thorny questions of how such "technological affordances" work in practice and what it means to say that they create the conditions from which nationalism "emerges." These are crucial issues that require conceptual and empirical work if we are to better understand how interactions between humans and technology produce and shape nationalism in advanced information societies.

The Chinese context is an excellent place to explore these issues. On the one hand, nationalism has been a central feature of political discourse in the PRC for many decades. The CCP today emphasises China's tumultuous history of strife and conflict in its education and propaganda policies to create a backdrop for its more recent successes at improving the welfare of Chinese citizens and elevating the PRC to Great Power status (see Callahan, 2010). During the reform period, and especially after the Tiananmen Massacre and the fall of the Soviet Union, the Chinese state has tried to instil loyalty in its citizens through an extensive "patriotic education" campaign (Wang, 2012) that has conflated the Chinese people, the PRC state and the CCP. The resulting CCP-designed and state-led initiative promotes pride in the homeland, coupled with a deep-seated sense of injustice and "national humiliation" (*guochi* 国耻) at the hand of foreign, imperialist powers (see Cohen, 2002). In official discourse, China's leaders have guided the country along a "road to revival" (*fuxing zhi lu* 复兴之路) that promises to finally correct the injustices suffered during the much-evoked "century of humiliation" and assure China's rightful return to the centre of the world stage.

On the other hand, the PRC's media policies promote digital technologies and platforms in such a way that these ubiquitous services have become an essential part of China's digital infrastructure (Platin & De Seta, 2019). The result is a combination of techno-nationalist governance efforts (Qiu, 2010), aimed at creating a largely autonomous, sovereign PRC internet (Leung, 2016) and political economy dynamics (Fuchs, 2016; Hong, 2017) that generate spaces for enterprises, state actors and private internet users to interact with the quintessential ideological current of Chinese nationalism. In other words, the sociotechnical setup that the Chinese authorities have engineered throws into sharp relief how different actors interact in online networks as they negotiate the meaning of the nation. Such dynamics, as Qiu (2003: 1) has pointed out, make the Chinese internet an "invaluable" object of study that "calls into question many existing conceptions of technology–society relations."

In this article, I will deploy a qualitative method specifically designed for analysing and illustrating such complexity (Hollnagel, 2012), and I will show how the interactions between humans, organisations and technologies create unexpected variations in nationalist expression on China's internet. To this end, I will revisit three empirical cases related to Sino-Japanese relations that I have previously examined (see Schneider, 2018), but that I have not conceptualised systematically in terms of how they resonate within digital networks to create emergent properties. The cases will shine a spotlight on the dynamics between internet users on the one hand and two other core sets of actors on the other: commercial media enterprises and state organisations (Figure 1). In each case, I will show specifically how technology contributes to feedback loops that ultimately make the outcomes of these interactions highly

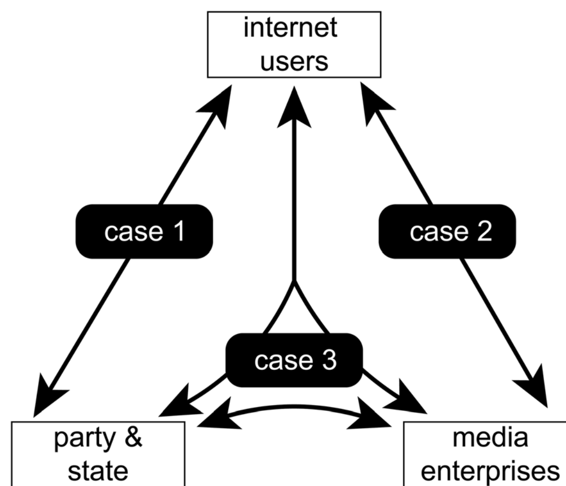

FIGURE 1 Exploring sociotechnological interactions in three cases (image: Author)

unpredictable. The first case covers interactions between internet users and the state, and the second case covers users and commercial websites; in the third and final case, all three sets of actors interact with each other in a social media environment, specifically Sina's influential microblogging platform Weibo. My contention is that modelling complexity in sociotechnical systems by emphasising the role of technological designs promises to generate a useful research programme for future inquiry into cyber-nationalism, whether in China or elsewhere.

Before unpacking the three cases under discussion in this article, allow me to first review how scholars have made sense of technological affordances and complex digital interactions. This will also include an introduction to the analytical framework I am proposing in this article and an explanation of why that framework promises to contribute original insights to these debates, specifically in the case of China's digital nationalism.

2 | STUDYING TECHNOLOGY AND EMERGENCE IN COMPLEX SOCIAL SYSTEMS

Scholars in the field of science and technology studies have long debated how precisely technological design interacts with social activities. Contrary to popular representations, technologies are not merely "tools" that are inherently neutral and can be deployed for good or ill. As scholars have shown, technological innovation is deeply embedded in path-dependent social and political processes (Rogers, 2003). Technology both reflects and shapes power relations, for instance, when infrastructures reify and entrench social prejudices (Winner, 1980, see Woolgar & Cooper, 1999 for a discussion). Design and architecture move interactions along certain paths. This is true for something as simple as a door with hinges and a closing mechanism that outsources, or "translates," human behaviour to an automated mechanical system (Latour, 1992: 229–234); it is also true for vastly more complex digital interfaces and algorithms that guide activities as diverse as online search behaviour (Halavais, 2009), knowledge production (Lovink & Tkacz, 2011) or the assemblage and analysis of data (Boyd & Crawford, 2012; Iliadis & Russo, 2016).

This is not to say that hardware and software today unilaterally define human interactions in a deterministic fashion, but it should complicate our understanding of sociality that technology ubiquitously sits between us and our interactions with the world, much "like a camera lens" (Pariser, 2012: 237). Technologies and their design create "affordances," that is, the "latent cues in environments (…) that hold possibilities for action" (Parchoma, 2014: 360)

or more specifically, the "functional and relational aspects which frame, while not determining, the possibilities for agentic action in relation to an object" (Hutchby, 2001: 444). This realisation that technological design and function are by no means innocent in the making of human interaction is powerfully captured by Malvin Kranzberg's (1995: 5) dictum that "technology is neither good nor bad; nor is it neutral," and it is borne out both empirically and conceptually by research on the power of interfaces and algorithms (see, e.g., Berry, 2011; Lovink & Rossiter, 2015; Manovich, 2013).

How, then, should we conceptualise the role that technology and its affordances play in social interactions? Sociologists have proposed that we view these interactions as networks and that we focus on how different agents exert power to calibrate such networks and infuse them with values (Castells, 2009), for instance, with particular interpretations of nationalism. One school of thought interprets such interactions as "actor-networks" (Latour, 2005) in which people and things act upon, constitute and transform each other. Yet others have described such processes as microrituals that are chained together in series of what Collins (2004) calls "interaction ritual chains." While it is not my aim to conflate these approaches, which indeed differ in carefully nuanced ways, it is nevertheless worth noting what they have in common: their emphasis on agency, interdependent processes and complex linkages between people and things. In this, they resemble work in other fields that explores networked interactions, for instance, in the study of communication (Monge & Contractor, 2003), organisational behaviour (Morçöl & Wachhaus, 2009; Rudolph & Repenning, 2002) and psychology (Fauconnier & Turner, 2002). Research in these fields promises to add an important dimension to accounts of social activity: the relevance of emergent properties in networked interactions.

In this article, I turn to one particular framework that promises to shed light on precisely this dimension of complex sociotechnical systems: Erik Hollnagel's "Functional Resonance Analysis Method" or "FRAM" (see Hollnagel, 2012 for an in-depth, step-by-step introduction and Hollnagel, 2018 for a short introduction). At its core, the FRAM is a type of process tracing method but one that starts from the observation that traditional process tracing is too focused on linear, causal relations to fully appreciate dynamics in complex systems. Process analyses are also often imprecise, for instance, in their use of flow charts that do not sufficiently reflect what the linkages between various system elements actually mean (see Hollnagel, 2012: 37–38 for a critique). To address these issues, Hollnagel proposes that we identify the tasks or activities that constitute a process, or what he calls "functions," that we complicate how those functions draw on "inputs" to generate "outputs" and that we ask how other functions might interact with a specific activity to generate a "variability" of outcomes (ibid.: ch.5). This makes it possible to map influences and feedback loops between people, organisations, and technology and to identify which activities can produce "resonances" that may increase the "amplitude" of a function's output, leading to unexpected outcomes (hence the name "functional resonance analysis").

Hollnagel's method provides a detail-oriented, hands-on toolbox for conceptualising, analysing, and representing complex interactions, but the framework can seem daunting, not least due to its use of jargon. What does it mean to say that a "function's output" varies in "amplitude"? And how might such an assessment relate to the study of digital nationalism? To illustrate this, I have provided an idealised diagram of how the Chinese authorities attempt to mobilise online users around state-led nationalism (Figure 2). The diagram is "idealised" in the sense that it does not describe how the production of nationalist discourse actually works but rather how the authorities would like it to work, judged on the basis of extensive research results on Chinese propaganda, ideology, and digital governance (Creemers, 2017b; Shambaugh, 2007). As I will show below, the actual process is much more complicated than this simplified figure lets on, and there is significant difference between this idealised task that the authorities set themselves and the actual case-to-case instantiations of such activities (see also Benney, 2020). Figure 2 is meant to provide a starting point that can then be expanded and developed into the full-fledged analysis.

In this particular case, the "function" describes the production of online discourse about the nation, and it is represented by a hexagon. Here, the function has a single input: the symbolic resources of Chinese nationalism that the party and state provide through their ideological monopoly in the Chinese media system. These building blocks of official nationalism, as promoted by the authorities, are then reworked by various human, organisational, and

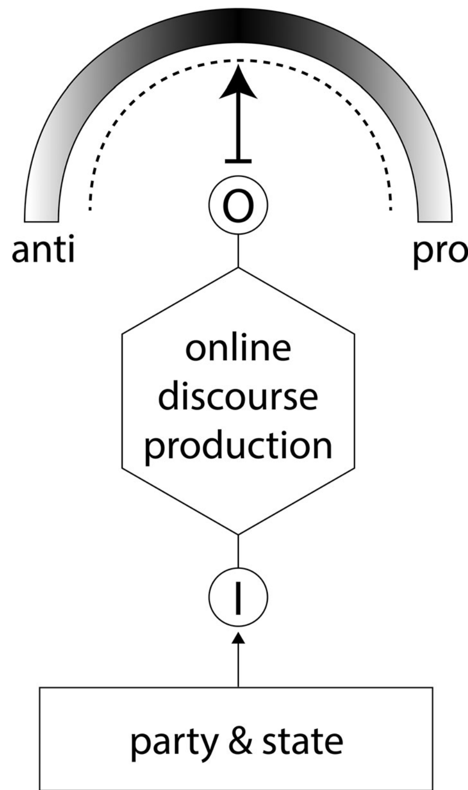

FIGURE 2 Variations in the production of nationalist discourse

technological actors to generate an output: nationalist discourse online. Discourses shift as actors recombine the available building blocks for their own purposes, generating a degree of variability in outcomes, depicted here as an arched gradient. Statements about the nation fall somewhere on this gradient. They can be more nationalist compared with the official position (falling on the right side of the arch), for instance, when internet users react xenophobically to PRC trade partners or when they demand that government institutions take stronger nationalist positions in international affairs. They can also be less nationalist (falling on the left side); examples might include calls for reconciliation and tolerance that run counter to official attempts to evoke "hostile foreign forces" as the cause for some domestic problem.

From the perspective of the authorities, the ideal outcome would be that the output aligns neatly with the input, meaning that it would fall solely into the black space at the centre of the gradient, with little variation. But since variation is inevitable, the question becomes: How strongly will the outcome diverge from the ideal in any given situation? To the authorities, some variation is tolerable. However, at certain amplitudes, fluctuations both to the right (pronationalist) or left (antinationalist) become insufferable to the authorities. Extreme nationalist examples might include calls to drop nuclear bombs on perceived antagonists or to arrest and execute perceived traitors to the nation; on the other side of the scale, it might include antinationalist arguments that question whether there is such a thing as a Chinese nation in the first place. Either example fundamentally contradicts, and potentially undermines, the position of the leadership.

What can a FRAM analysis contribute to this picture? Hollnagel's framework is designed to highlight how interdependencies between people, organisations, and technology lead to unexpected outcomes. In the first instance, the model has proven effective in risk and safety analyses, but its utility goes well beyond these contexts. The FRAM is

powerful because it promises to explain how exactly "emergence" works in dynamic, complex sociotechnical environments ranging "from individuals to organisations and nations" (Hollnagel, 2012: 30). Instead of treating a process like discourse production as a single function with a singular input, FRAM prompts researchers to break such processes down into interrelated functions that affect each other and that at times circle back through complex feedback loops to generate unexpected outcomes. It treats the simple, linear process depicted in Figure 2 as a nonlinear, dynamic process, and it asks what precisely increases or dampens outcome variation. I will provide such explanations for each of the three cases discussed below.

In the context of digital politics in China, Hollnagel's work promises to be particularly useful, for four reasons: Firstly, it draws attention to the difference between "what designers, managers, regulators and authorities believe happens or should happen" and "what actually happens" (Hollnagel, 2012: 34). This is a distinction that is particularly relevant considering the strong commitment of Chinese leaders to an authoritarian, Leninist ideal of governance that unapologetically aims to engineer communication and society (Creemers, 2017a; Pieke, 2012), even if reality never actually approaches this ideal. Secondly, Hollnagel stresses that seemingly stable everyday interactions can contain within them the seed for infrequent but significant variations in outcome. This is an apt description of how nationalism, in China's digital systems as much as elsewhere, can seem like background noise most of the time, only to then suddenly burst into the foreground during moments of heightened tension in the form of influential statements and activities. For example, the dynamics in China's dispute over national territories in the East China Sea, which form the basis for the case studies below, have posed a puzzle for scholars precisely because the cycles of escalation and de-escalation, of fluctuations between heated rhetoric and measured restraint, do not fit well with the assumptions of mainstream international-relations theory (see Hagström, 2012 for a critique). The FRAM explicitly asks: What interlinkages lead to such outcomes? Thirdly, this framework accounts for adaptive behaviour in sociotechnical systems, which aligns with an important feature of the PRC's governance system: its "responsiveness" (see Qiaoan & Teets, 2020 for a review of the research). Hollnagel's method anticipates how a "system constantly re-configures itself, so to speak, to match the conditions under which it functions," promising to provide a lens through which to understand such adaptability (Hollnagel, 2012: 34). Finally, the FRAM provides a flexible and open-ended methodology for qualitative research: It prompts analysts to cast their net wide as they unpack complex processes and iterate, expand, and collapse their explanation as needed to cover activities across various domains, taking place in both the background and foreground. This way, the FRAM assures that social processes are not explained merely as the results of some nebulous "context" or "culture" that presumably exists independently of the process under investigation. Instead, the FRAM treats "context" as a part of what needs to be explained.

The FRAM achieves this by asking how the outputs of some functions become the inputs of others and specifically how these inputs might create linkages ("couplings") that follow a particular logic. For instance, whereas a classic "input" would be either something that initiates a function or that serves as the materials that the function processes, a function may also be affected by other "aspects" (ibid.: ch.5), specifically timing, control mechanisms, preconditions and the need for specific consumable resources (material and energy) or necessary execution conditions (tools, data, or skills, etc.). While not all of these elements will necessarily come into play in every case or scenario, the FRAM provides the space to account for such potential linkages, and it does so by attributing up to six aspects to any given function. Visually, functions are represented as hexagons, and their aspects are located at each of the six corners (see Figure 3).

In what follows, I will unpack three cases of sociotechnical interactions in China that involved expressions of digital nationalism with regard to the East China Sea dispute. In each case, I will first provide a descriptive account of the case, before then introducing the core activities, or "functions," that characterise it. I will suggest how these activities became "coupled," focusing on the role that technological affordances and design choices play in the process and showing how certain linkages can create "resonance" within these interactions.

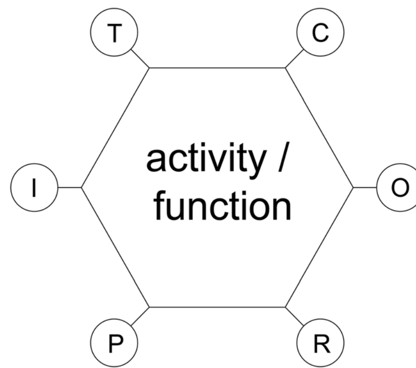

FIGURE 3 Functions and their aspects: input (I), time (T), control (C), output (O), resources (R) and preconditions (P); image based on Hollnagel (2012: 39)

3 | CASE 1: OFFICIAL AND NONGOVERNMENTAL NATIONALISMS IN THE EAST CHINA SEA DISPUTE

The first case concerns the dynamics between state and nongovernmental actors as they engage with the topic of territorial sovereignty in the East China Sea in the wake of the Sino-Japanese altercations that shaped online discussion and offline protests in 2012. Following the events of 2012, the PRC government doubled down on its position that the contested islands, called Diaoyudao in Chinese and Senkaku in Japanese, were an "inseparable part of the Chinese territory" (中国领土不可分割的一部分). The official position became powerfully enshrined on the website diaoyudao.org, which the state launched in December 2014, first in Chinese, then in seven other languages, including Japanese and English (Figure 4). The site features content created by the State Council Information Office, China's highest state propaganda institution. Much of the online presentation is dedicated to justifying the PRC's claims over the islands by providing historical documents such as maps and digital reproductions of dynastic textual sources. It also serves to make those sources legible by establishing a standardised language of ideologically charged "watch words" (or: tifa 提法; see Qian, 2012), along with similarly recognizable "watch symbols." Collectively, these resources ground the official territorial claims in legal, historical and practical considerations. They also turn the uninhabited islets into tangible homeland and imply a strong moral mandate for safeguarding the integrity of that homeland.

As the state took a position in the aftermath of the 2012 events, nongovernmental organisations also mobilised to defend the Diaoyu Islands online. Organisations like the Action Committee for Defending the Diaoyus (保钓行动委员会), the Chinese Federation for Defending the Diaoyus (中国民间保钓联合会, or CFDD), or the World Chinese Alliance in Defence of the Diaoyus (世界华人保钓联盟, or WCADDL) showcased and coordinated their activities via websites such as diaoyuislands.org, cfdd.org.cn, and wcaddl.org. These sites, hosted on servers in Beijing and Hong Kong, coated their own statements about the Chinese nation in the language and symbols that state actors had established as the correct framework for making sense of the issue, and they indeed often reiterated official claims to territorial sovereignty. They also flanked official statements with their own efforts to make the East China Sea territories tangible in the minds of Chinese citizens, for instance, by showing images of activists attempting to sail there or by selling books about the flora and fauna of the islands with the explicit goal of reducing "the distance between us and the Diaoyu Islands" (Li, 2014). In this, the NGO activities frequently aligned with state activities.

However, the NGOs did not merely represent content that is in line with the official position. They engaged in activism that outflanked official state-led nationalism on the more aggressive side of the political spectrum, for instance, by calling on the Chinese nation to "thoroughly exterminate the enemy." Such calls translated into activism meant to shape policy, for instance, by agitating for more nationalist education in the PRC. In 2015, WCADDL

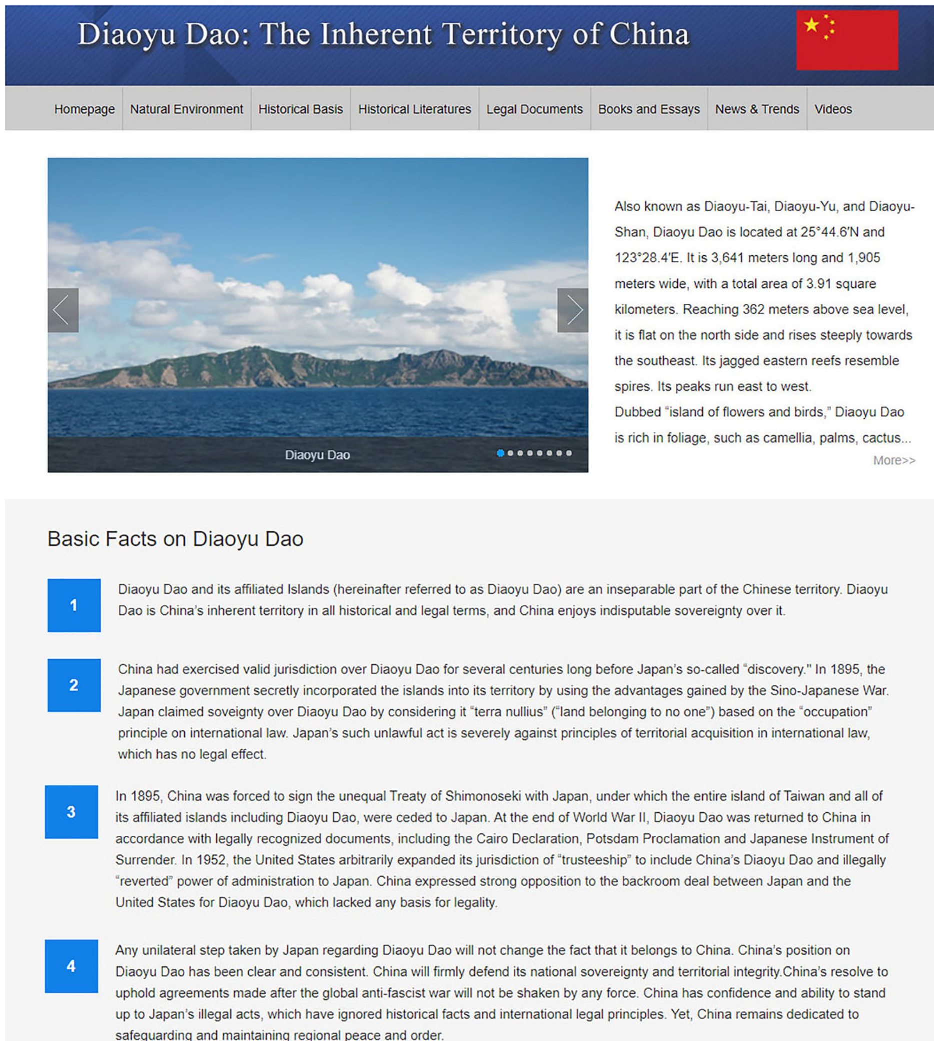

FIGURE 4 The People's Republic of China's (PRC) official Diaoyu Island website (English version, accessed 8 November 2020) [Colour figure can be viewed at wileyonlinelibrary.com]

launched an online poll "to push the Ministry of Education to augment and revise the content related to the Diaoyu Islands in China's textbooks" (WCADLL n.d.). Of the roughly 500 survey participants, 96% supported the thrust of the organisation's activism. The WCADDL would go on to submit a petition to see China's history and social studies curriculum revised and that petition would elicit an official state response thanking the alliance for its work and promising to promote territorial awareness further (WCADDL, 2015). While the official response was arguably muted by vaguely phrased promises, it is telling that this response nevertheless came from a ministerial-level organisation.

This set of interactions showcases a series of state and nonstate activities that are coupled in a way that generates resonance and which I have represented in Figure 5. The core activity of the state is to make policy choices, the results of which inform three related activities: the state's attempts to (1) communicate on policy-relevant issues, (2) govern digital communication in the PRC, and (3) legitimate state decisions. In the case outlined above, the state formulates a public position on the East China Sea and creates an online site to present that position. Decisions on

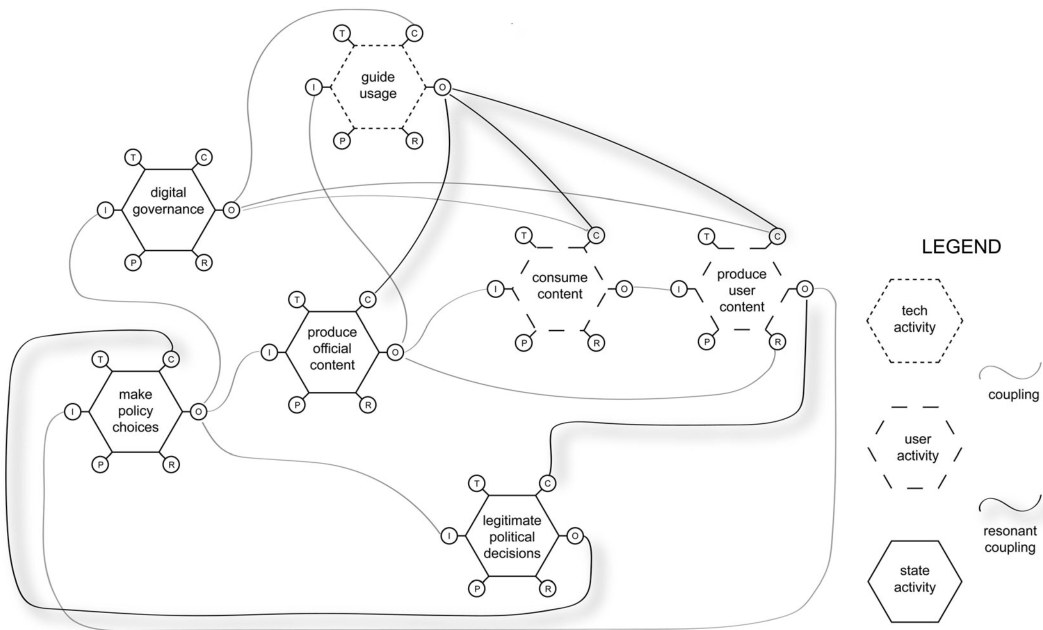

FIGURE 5 Resonance in sociotechnical interactions between state and NGOs

how to communicate this position translate into specific designs, such as the choice to use web affordances primarily to create an archival space for digitised materials. These affordances then feed back into the production of content, creating the official web presence visible on diaoyudao.org.

Internet users, guided in their uses by the affordances of the web (i.e., domestic search engines and the workings of hyperlinks), consume the statements and symbolic resources established through official communication channels such as the Diaoyudao website, and those resources become a source of nongovernmental content production. This includes statements that feed into the political legitimation process, acting as a constraint or control on how various actors assess the state's policies. It also includes direct input into the policy-making process itself, in this case in the form of a petition. In their production of content, internet users are constrained by China's digital governance activities (online comments might be deleted, websites taken down, accounts blocked, etc.) and also by the affordances of the medium, for instance, by their ability to connect with each other, facilitate certain kinds of knowledge construction (e.g., surveys), and formulate nationalist discourse across different media.

Figure 5 represents this analysis by showcasing various activities and their interlinkages, but most importantly, it draws attention to the pathways of interaction that are most likely to contribute to fluctuations in outcome (the "resonant coupling" connections, represented in black and set into relief against the diagram's other linkages). Two dynamics are particularly relevant here: the affordances of the medium (top) and the ability of nonstate actors to insert themselves into the state's legitimation rationale (bottom).

In terms of the technological affordances that certain design choices offer, it is important to recall that official actors have opted to create what I have elsewhere called an "info-web" (Schneider, 2016): a set of interlinked sites that are designed to broadcast authoritative information to internet users, but that largely eschew interactive mechanisms like web forums. User interaction is mostly limited to accessing and consuming media content, which is then discussed and reworked in other spaces, for instance, on nationalist NGO websites. On those sites, interaction takes place overwhelmingly between like-minded users, whose content production reverberates inside closed spaces. The technological setup facilitates "homophile" (McPherson et al., 2001), assuring that like begets like. This is visible in the way one NGO's online poll emboldens the organisers to formulate and submit a petition to the relevant ministry.

The 500 users who engaged with that poll hardly serve as a representative sample of internet users more broadly, considering the hundreds of millions of Chinese that use the PRC's internet every day. My own research also suggests that these nationalist NGO activities attract mostly older Chinese men (Schneider, 2018). Yet the way this specific digital intervention recruits participants, frames the issue and then aggregates reactions yields a seemingly overwhelming sense of support for the cause on that specific site, regardless of whether the users polled this way are marginal on the PRC internet or not. It is through such amplification that the combination of digitally mediated consumption and production of media content can result in discourses that are more nationalist than the official position.

The second relevant feedback loop runs via the legitimation efforts of state actors. As nonstate actors comment on, and potentially challenge, state policy through recourse to the state's own legitimation claims, their actions become a controlling input to the legitimation process, which in turn generates signals to policymakers as to whether their activities are receiving public support or not. In the case outlined above, the amplification through technological means and the high premium that leaders place on legitimation in Chinese politics conspire to generate pressures on officials, in this case prompting a ministry-level organisation to respond to a group of marginal internet users. While this specific petition itself does not seem to have generated a noticeable shift in policy, it is not hard to see how other nonstate activities could create such a shift and could aggressively shape Sino-Japanese relations: For instance, one of the goals that such activists pursued was to charter a boat to the contested territories; this is a type of activism that has in the past escalated Sino-Japanese interstate tensions, for instance, during the 2012 dispute. Such unpredictable agitations are not in the interests of the PRC and its attempts to promote a foreign policy grounded in "pragmatic nationalism." And yet, such wild-card behaviour serves as an input to policymaking, and when that policy-making process is amplified by selectively generated legitimation signals, the outcomes may very well lead to more aggressively nationalist policy.

4 | CASE 2: SELLING SOVEREIGNTY—NATIONALIST DISCOURSE IN A COMMERCIAL NETWORK

The example of how NGOs tried to intervene in the East China Sea dispute already illustrates that certain interactions can bring to the fore a perniciously aggressive nationalism that feeds back into policymaking, even if it runs contrary to the avowed pragmatic interests of the Chinese state. The PRC internet is full of loud, angry criticism of the Chinese leadership, especially when it comes to questions of whether the leaders are doing the country's national ambitions justice, and in this sense NGO activism reflects a broader discourse that potentially threatens the CCP's claims to legitimacy. This aggressive discourse takes its cues from the official repertoire of national symbols, but it re-interprets them in idiosyncratic ways. While this angry discourse is ubiquitous across Chinese online spheres, it is not generated solely, or even primarily, by NGO activists like those I have discussed above. Such activists remain connected within relatively small groups of nationalists and online activities such as their petitions mobilise relatively few people.

How, then, do aggressively nationalist discourses move to the forefront of online representations? The answer lies with the commercial and algorithmic rationales of Chinese web spheres. The workings of private news portals and popular aggregators shall serve as a case to explore these rationales. A large part of China's media environment is taken up by state-owned corporations, and especially content production that relates to sensitive topics in politics and society largely remains in the hands of state conglomerates that relay officially sanctioned positions. And yet, private content creators and curators play an important role in the Chinese media ecosystem. Such enterprises tend to take a tabloid-like approach, usually focusing on fashion and lifestyle, but at times also specialising in current affairs issues. Nationalism is often a central selling-point in such contexts, as it seems to attract site visitors while simultaneously appealing to the narratives established by state agencies.

The military affairs website Xilu is a case in point: It provides news on Chinese military developments and international politics, using nationalism as its guiding frame. The site's "about" section, for instance, explains that the purpose of Xilu is to bring together "Chinese military fans from around the world to rise and fight for their great nation" (全球华人军迷为大国之崛起而奋斗). Like other such commercial enterprises, Xilu relies on advertising to fulfil its mission. In fact, while much of its content aligns itself with state interests, the site features pop-ups and click-bait that do not conform to official demands for "healthy" content, for instance, leading to conspiracy theories, porn, gambling offers, and in some cases violent snuff content such as images of raped and murdered women. These contents sit alongside articles on Chinese territorial integrity, sovereignty, and state legitimacy, often competing for reader attention through racy headlines. While these contents tell us little about the actual political position of the web hosts, let alone the people clicking on the content, the hypermasculine representations of military might, juxtaposed with internet games and pictures of scantily clad women, suggest a particular target audience: a predominantly male audience that the creators seem to assume is attracted to masculine power fantasies. This creates a run-away dynamic.

To show how the rationale for framing current affairs in such contexts works, I have drawn up the most relevant interactions in Figure 6. Commercial websites like Xilu are in the business of producing and disseminating content, and they monetise the engagement that this content generates on their site to make a profit. Meanwhile, users consume this content, but they also generate content of their own, especially through their liking, sharing, and commenting behaviour. A crucial component throughout these interactions is again the technology that enables them. Aside from the kinds of affordances discussed above, that is, the way that website features guide the production and consumption of content, sites like this one rely heavily on analytical tools to quantify and monetise user behaviour, be it in terms of consumption (page views) or "produser" activity (shares, backlinks from other sites, etc.). Insights gleaned from such metrics become the input for new content generation (illustrated by the circuit at the bottom of the diagram), but they also filter through the profit rationale to affect what resources the site can muster to generate

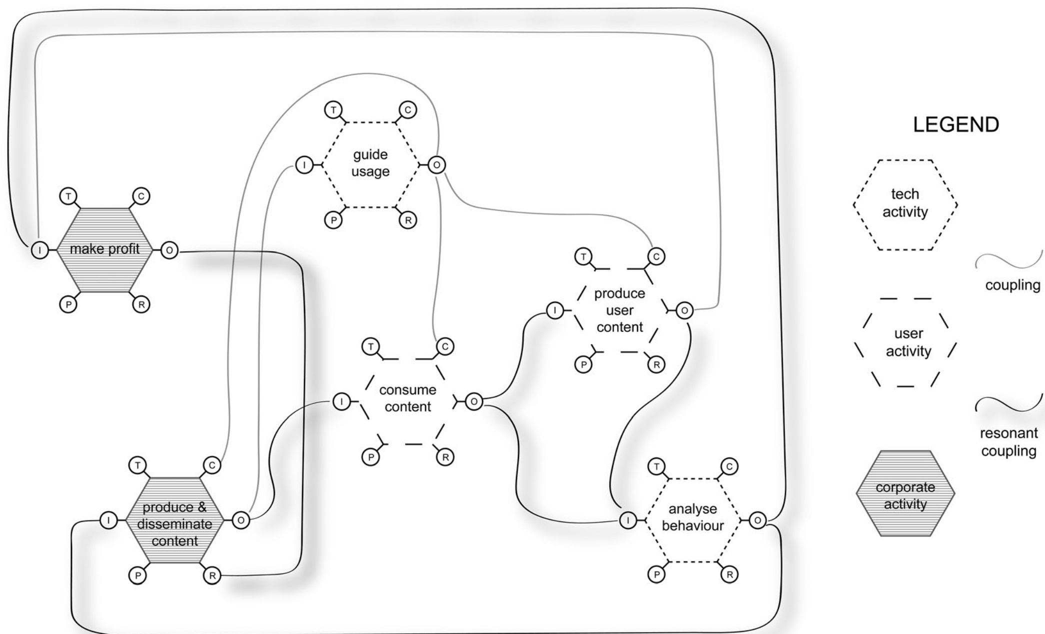

FIGURE 6 Techno-commercial resonance in the production of nationalist discourse

new content (represented via the top loop). There is then a double incentive for content creators to cater to their perceived target audience.

Importantly, the feedback loops say nothing about the actual audience, their beliefs, attitudes, or behaviours. It would be conceivable (though arguably unlikely) that users click the site's content for reasons other than genuine interest in, or even approval of, the content. They might access the site out of irony, out of a wish to stay abreast of controversies, or for any number of other reasons. However, the resonance effect would remain the same: The system registers that aggressive content generates clicks, which in turn signals to the content creators that this type of content is likely to produce the very resource required to stay in business. In such a political economy, which extracts profit through site traffic and page views, relayed to site administrators and content creators through the feedback loops of analytical software, the web becomes governed by incentives to produce ever more racy content.

Sites like the news aggregator Xilu are governed by a feedback loop that privileges aggressive nationalism, creating a degree of variability in nationalist representation that defies the carefully designed messages of the state's "pragmatic nationalism." However, such sites are not in and of themselves forums for large-scale discussion. Interaction on such sites is fairly limited, as content creators keep comment sections turned off by default and push users to share and debate content in other contexts, such as social media. What kinds of dynamics govern these activities?

5 | CASE 3: NAVIGATING NATIONALISM ON A SOCIAL MEDIA PLATFORM

In online spheres that contain interactive "Web 2.0" components and social media elements, interactive feedback loops become ever more numerous, creating a complex environment in which resonance is a constant possibility. On Chinese sites, design choices and algorithmic rationales often reward users who voice the most aggressive views, for instance, by "promoting" online posts to the top of lengthy comment threads, by showcasing the most "liked" or "shared" posts in special preview sections, or by rewarding popular comments with badges or seals of approval. Looking at, for instance, the comment section of Chinese online encyclopaedias, I have found that the dynamics of such sites privilege racist, sexist contributions while moving more measured comments to the background (Schneider, 2018).

One site that has received particular attention in this context has been Sina's microblogging service Weibo. Debates about politics frequently turn nationalist, especially when Japan is concerned. Gries and his colleagues (Gries et al., 2016) have explored how angry nationalist sentiments on Weibo preceded street protests in 2012. Recent examples serve as reminders that the platform continues to generate significant online debate in the face of perceived Japanese affronts, for instance, over footage showing Japanese kindergarten students proclaiming an oath to "protect the Senkaku Islands" (see Koetse, 2017) or over evidence that a Japanese hotel chain placed revisionist history books that denied the Nanjing Massacre in its rooms (see Otake, 2017). The often-aggressive tone in China's Weibo networks has consequently led domestic researchers like Yu Guoming (Yu, 2014) to conclude that Weibo's design features and business practices prime users "not to take responsibility for their actions and to stealthily hurl abuse at others"; according to Yu, "a platform that condones and encourages such an environment for quick success and instant profit is bound to destroy itself" (ibid.: 4–7, my translation).

Weibo certainly has the potential to create resonances and amplify outputs such as nationalist commentary, but do the technological affordances and feedback loops truly work in the way that critics such as Yu assume? The 2012 anti-Japanese protests again serve as a useful case, and the evidence seems to contradict Yu's assessment. As Feng and Yuan (2014) have shown, Weibo comments during this time were extremely diverse, and they led to complicated discussions that did not neatly collapse into a single, angry discourse. While there were chauvinistic voices, there were also more measured commentators who asked users to behave rationally and qualify their nationalist zeal. Maybe most interestingly, nationalist discourse on issues like the East China Sea was also repurposed in surprising ways, and users often deployed irony and satire to undermine such discourse or adapt it to new and seemingly

unrelated issues. In such cases, users poked fun at the supposedly existential territorial threat and at concerns over the PRC's military might, instead shifting the focus to their own everyday struggles, for instance, with local bureaucracy and government fiat. It does not seem to be the case that the interface and back-end design of the microblogging platform automatically skew the discourse and move it into aggressively nationalist parameters. Instead, at the time of the 2012 East China Sea dispute, Sina Weibo seemed to provide an environment in which much negotiation took place about the nature of the Chinese nation and its relations with foreign "others." While it is fair to say that the "amplitude" of variations that came out of these discussions was extreme, the emergent discourse was not necessarily crude and aggressive.

My own qualitative research of the most popular Weibo accounts during that 2012 dispute suggests that the technological affordances of the platform actually empowered users who had a dampening effect on nationalist expression (see Schneider, 2018). Looking at the celebrities who had the most powerful positions in the social media network, it turned out that these power users either steered clear of controversies—likely not to hurt their brand—or that they tried to intervene in nationalist discussions by calling for restraint. In two cases, these high-profile verified users (or: "Big-V") even used the occasion to subtly criticise Chinese nationalists, for instance, by calling into question the legitimacy of aggressive protest behaviour or by comparing the nationalist zeal with the radical excesses of the Cultural Revolution.

Figure 7 shows the complicated couplings and feedback loops that characterised these interactions between the commercial platform service Weibo, its users, the state, and the technological affordances of the medium. In this figure, I have integrated several of the dynamics already familiar from the previous two cases, such as the policy-making and legitimation logic of the state, the role of digital governance in such a system, and the link between profit-oriented online activity and data analytics. The user-generated output here again circles back into policymaking decisions, both as a direct input and as a control on legitimation signals; but these user activities are

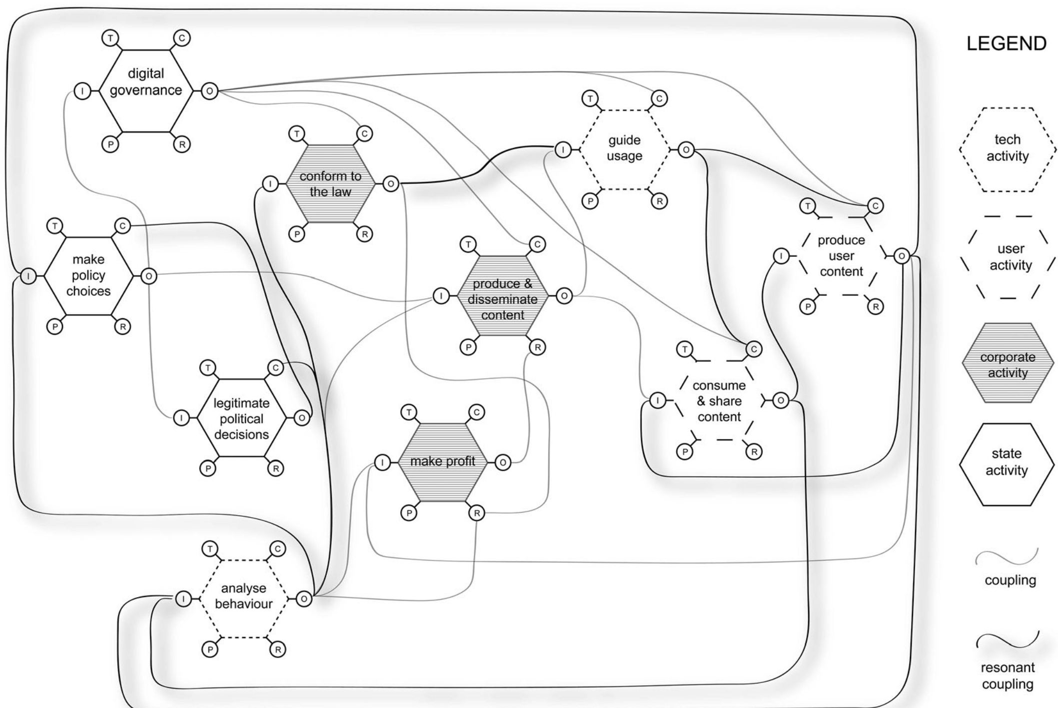

FIGURE 7 Amplification and dampening in a social media environment

now filtered through the analytics of the platform and the state surveillance systems. This alone does not have to mean that the user output becomes dampened, but another circuit that runs through two functions of the diagram makes such an outcome likely. Commercial platform providers need to assure that interactions on their platforms remain within the rules and regulations of China's digital governance. This means that they build controls into their platform architecture and that they relay the requirements for civil behaviour to users. The exposure that verified users with large numbers of followers have on the platform does not necessarily work as an incentive for ethically questionable behaviour (even if there have indeed been such cases). In many instances, such as during the 2012 debates about Japan, Weibo influencers infused communication networks with careful interventions, which filtered through the network architecture to inspire nuanced discussion.

It is telling that the Chinese state at the time nevertheless registered unexpected variation in the Weibo debates: The diverse discussions on Weibo were certainly not "guided" towards a singular, monolithic public opinion. Instead, viewpoints differed so extensively from the official position that some called into question the legitimacy of state governance in general. It must have been this fear of varied discourse and its ability to affect legitimacy signals that ultimately convinced the Xi administration to crack down on Weibo influencers after 2013 (Chin, 2013; Economist, 2013).

6 | CONCLUSION

In this article, I have examined how state and nonstate actors contribute to nationalist discourses in China's digital media ecology. My argument has been that such discourses are connected to PRC policy because official actors have made questions of sovereignty an existential, moral concern for the Chinese leadership. I have made the case that while the strong visibility of specific nationalist discourses in digital China may say little about the actual shape of nationalism on the ground, it nevertheless creates a context of aggressive sentiments within which PRC policymakers then need to position themselves if they want their activities to appear legitimate before their highly active, digitally connected domestic constituencies. It is then important not to overestimate the Chinese state's admittedly wide-sweeping ability to govern communicative interactions between its citizens or to take at face value the authorities' faith in the effectiveness of their governance practices. As Hollnagel (2012: 31) has stressed, "humans and organisations are not well-behaved machines—despite the best efforts of ambitious engineers and managers to turn them into that." Chinese leaders, frequently portrayed as strongmen who govern China with an iron fist, may be more constrained by their techno-nationalist environment than is often assumed, even if the constraints are at least to some degree of the leadership's own making.

What contributes to these constraints? One crucial factor is digital technology. Design is political, and this is certainly visible in the way that stakeholders in the PRC establish, tweak, and implement the core components of China's digital systems. It is within the resulting sociotechnical ecology that state-led governance initiatives and commercial interests interact to create emergent ideological currents that are not under any single actor's direct control. With regard to Sino-Japanese relations, the online activities of various actors forcefully construct a sense of tangible national territory, inviting citizens to understand this territory as a unified living and breathing "homeland" that deserves a personal, emotional attachment. This attachment generates aggressive online statements by nonstate actors, who often go beyond the discursive parameters that the state has set in its quest for a "pragmatic" Chinese nationalism. Chauvinistic, racist comments in particular become visible within the PRC's online networks, which are governed by commercial and algorithmic rationales that create amplifying feedback loops.

The situation is somewhat more nuanced on China's popular microblogging platform Sina Weibo, where celebrity users at the centre of the platform's social networks provide a corrective to aggressive discursive statements. At the same time, the decentralised nature of the platform allows users to generate subtle shifts in discourse, for instance through the use of irony and satire, and many users indeed repurpose nationalist tropes for their own ends, often to highlight their personal hardships or to mock the Chinese authorities and those who support them. Granted,

the past years have seen crackdowns against many of Weibo's power users. Nevertheless, the platform remains an important part of China's hybrid media environment, and it continues to produce discussions that can be protracted and complicated.

An open question is how discourses on Weibo compare to those on Tencent's popular chat-app Weixin. Does the nature of small-group interaction on Weixin incentivise users to promote aggressive discourses? Or do interactions between technological affordances and sociopsychological dynamics dampen toxic nationalism? I am not in a position in this article to assess such questions empirically, but the architecture of the chat app (see De Seta, 2020), combined with the resonance patterns that criss-cross digital China's political economy, leave me sceptical. While scholars like Yu (2014) are probably right that the small-group setup of Weixin creates incentives for self-policing and for conformity, it does not follow that this conformity is desirable. It only follows that such environments create discourses that tend towards a consensus. This consensus could well be chauvinistic. I indeed find it plausible that Weixin's walled gardens would provide environments in which radical nationalism can fester and grow, creating ever more powerful reverberation circuits, especially where the "inputs" to discursive production are already aggressive and chauvinistic.

All in all, aggressive nationalism remains a defining component of online public discourse in China, and it provides the highly visible frame within which users make sense of contemporary affairs, for example, the relationship with neighbouring Japan. In this context, aggressive nationalism may be an ideology promoted primarily by marginal groups, but the technological affordances of digital China's media environment and the incentive structures within its political economy nevertheless create the conditions from which such nationalism emerges as a powerful force in politics. This is a worrying outcome, especially considering that the CCP places a high stake in online public opinion, which it monitors for input into its policymaking and legitimation activities. While the Chinese situation illustrates how such dynamics unfold in an environment with particularly stringent controls, the emergent nature of discourse in online environments is certainly not limited to the Chinese context, and future research would be well advised to explore how complex networked interactions create digital nationalism. Nonlinear process tracing methodologies such as Hollnagel's (2012) "FRAM" provide a first step for qualitative work to conceptualise such interactions, and especially computational methods might fruitfully explore and expand such analyses. Wherever public debate and political outcomes become filtered through commercial sociotechnical systems, we can expect resonance loops to generate emergent outcomes such as nationalist discussions and policy outcomes, and we require nonlinear models to understand under which conditions, and working from which inputs, such outcomes turn toxic.

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ORCID

Florian Schneider https://orcid.org/0000-0001-7490-2187

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