The rumouring of SARS during the 2003 epidemic in China

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Abstract By analysing rumour content as covered by major Chinese newspapers, this article explores the multiple dimensions of SARS-related rumouring throughout China during the 2003 epidemic. Findings indicate a strong correlation between the scale of SARS infections and level of rumour activities across regions. As for channels of dissemination, the rumour process still found a natural habitat in word of mouth, while internet-based platforms and cell phone text messaging emerged as viable grapevines. Our particular typology of SARS-incurred rumours leads us to identify four distinct types of rumours: legendary rumours; aetiological narratives; proto-memorates; and bogies. The four types of rumours are discussed against the background of superstitious beliefs, folklore practices, popular mentalities, and China's particular socio-political information environment.

Keywords: SARS, sociology of rumour, rumours, rumour typology, rumour mongering, China

Introduction

As 'the oldest form of mass media' (Kapferer 1990: 1), rumours have been of perennial interest to social researchers since the 1900s. Although it can occur at any time, rumour mongering is particularly prominent during moments of crisis and turmoil when uncertainties and anxieties run high. Rumours serve both as barometers of individual states of mind (Rosnow 1988), and as benchmarks for collective consciousness and group problem solving (Shibutani 1966, Bordia and DiFonzo 2002). The study of rumours, Dingwall (2001: 198) argues, has the potential to contribute to the sociology of health and illness by aiding our understanding of 'lay health knowledge and beliefs and the situated basis of health-relevant actions'. Likewise, as Wright and Nerlich (2009) demonstrate through their examination of rumours in circulation during the 2001 Foot and Mouth Disease (FMD) crisis in Britain, rumours can be fruitfully analysed to shed light on the three types of psycho-social epidemics – namely, an epidemic of fear, an epidemic of explanation, and an epidemic of action or proposed action – that Strong (1990) conceptualises subsequent to a major disease outbreak.

This paper scrutinises multiple aspects of the rumour process in China during the 2003 SARS epidemic, classified by the World Health Organisation as ‘the first severe and readily transmissible new disease to emerge in the 21st century’ (WHO 2003: 1). Specifically, by content analysing, both quantitatively and qualitatively, SARS-related rumours as covered by major Chinese newspapers, this study investigates patterns of relationship between rumour incidences and SARS infections across different regions and examines thematic manifestations in the rumour content during the outbreak of the disease in China. The results offer insight into the nature of rumouring at times of a major public health crisis and information scarcity, especially against the backdrop of superstitious medical beliefs and folk health practices in the rich terrain of Chinese popular culture.

Theories of rumour communication

Academic literature has typically defined rumours as propositions or hypotheses which, by way of unverified information, help people construct sensible interpretations of particular situations under circumstances of ambiguity and uncertainty. In their seminal text, Allport and Postman (1965: 34, emphasis in the original) proposed the widely-cited formula which projects ‘the amount of rumour in circulation will vary with the importance of the subject to the individual concerned *times* the ambiguity of the evidence pertaining to the topic at issue’. Besides importance and ambiguity, Rosnow (1991) identifies at least four additional conditions that interact with the process of rumour mongering: general uncertainty; outcome-relevant involvement; personal anxiety; and credulity. In a similar vein, Bordia and DiFonzo (2002) pinpoint four micro-level (individual) variables that affect the outcome of the rumour process – namely, anxiety, uncertainty, importance, and belief. Additionally, perceived threat is often cited as a triggering condition for rumouring (DiFonzo and Bordia 2007). It is no wonder then that catastrophic situations such as the Second World War (Allport and Postman 1965), the calamitous earthquake in India in 1934 (Prasad 1935), and the deadly Chernobyl nuclear accident of 1986 (Rahu 2003), would document colossal rumour activities.

The above findings summarise the dominant perspectives of scholarly works primarily embracing the psychological (i.e. individualistic), approaches to researching the rumour process, which tend to disregard group-level and socio-cultural influences. The sociological framework finds best expression in the work of Shibutani (1966), who conceives rumour as a special type of ‘improvised news’ while people caught in an ambiguous situation engage in the process of collective problem-solving by pooling together their intellectual resources in an effort to assign meaning to unexplained facts. This theoretical formulation is echoed by Kapferer (1990), who argues that rumour, as the group’s voice, symbolises shared but suppressed group fears and beliefs. Because there is an elevated need for cognitive clarity (Rosnow and Fine 1976), rumouring is conceptualised by Turner (1994) to be an act of intensified collective information seeking – a natural shift-over from information sifting under circumstances of increased, specified, or authenticated threats.

As for the situations that contribute to rumour proliferation, Shibutani (1966) notes that rumour is rife when institutionalised channels of communication break down or when they are no longer trusted by the public. At the social structural level, Turner (1964) points to four scenarios that lead to rumouring: when stable accommodations for the pursuit of everyday life are threatened; when the formal structure of a society no longer facilitates information circulation; when events occur that disrupt the normal understandings of daily routines; and when there is a strong shared incentive to use rumour to justify normatively prescribed

collective behaviour (see also Dingwall 2001, Shaw and Woodward 2004). Prasad (1935: 5) describes a typical situation leading to the growth of rumour as one which: '(a) sets up an emotional disturbance; (b) is of an uncommon and unfamiliar type; (c) contains many aspects unknown to the individuals affected; (d) contains several unverifiable factors; (e) is of group interest'. Noticeably, both Prasad and Turner effectively involve the individuals in the rumour processes in a particular group or social climate.

Rumour content has also attracted considerable scholarly attention. In line with Allport and Postman's (1965: 170) observation that 'The rumour pie may be sliced in many ways', rumours have been classified in a number of ways based on the subject matter, the interests of the researchers, and the specific situations under investigation. In broad sweeps, a distinction is often made between two types of rumours: wish rumours (i.e. those invoking hoped-for consequences), and dread rumours (i.e. those incurring feared or disappointing results) (Rosnow *et al.* 1986). In his extensive study of 1000 rumours being circulated in the United States during the Second World War, Knapp (1944) identified three types of rumours based on motivational factors: 'pipe dream' (or wish-fulfilment) rumours (those that reflect wished-for outcomes); 'bogies' (or fear rumours, those that invoke feared or anxiety-inducing outcomes); and 'wedge drivers' (or aggressive rumours, those that derogate certain groups or classes of people). To these three, Allport and Postman (1965) added a fourth type – the 'home-stretch' rumours, or those that are generated through a much-anticipated finale of great importance.

Carl Jung distinguished between two ordinary and visionary rumours in his psychoanalytic framework. The former need nothing more than 'popular curiosity and sensation-mongering' (Jung 1959: 6), to disseminate. The latter, on the other hand, are caused by primordial visions and archetypal psychic processes embedded in the subconscious human minds; they are our psychological projections of the human world in the higher world and supernatural forces at moments of collective distress and uncertainty. It has also been noted that some rumours are 'spontaneous' or 'extemporaneous' in the sense they emerge naturally in a crisis situation and other rumours are 'deliberate' (Shibutani 1966), or 'premeditated' (Kimmel 2003), in that they are manufactured to serve a predefined purpose. Notwithstanding these diverse efforts to classify rumours, it must be pointed out that no single unified, all-inclusive scheme can disentangle the complex rumour dynamics under different conditions. What we need is a situation-based, context-dependent analytical framework (Bordia and DiFonzo 2002), built on 'methodological pluralism and theoretical ecumenism' (Rosnow 1988: 15), in order to piece together the rumour puzzle.

When faced by situations of uncertainty and fear, people show a natural tendency to dig into their repertoire of cultural, religious and mythological heritage to construct meanings and look for interpretations. Rumours that accorded with cultural traditions of the group found fertile ground in society during the Second World War (Knapp 1944). Similarly, in the disastrous Indian earthquake of 1934, rumours that were 'couched in terms of the traditional and cultural heritage peculiar to the group' (Prasad 1935: 7), gained widespread currency. In cross-examining earthquake-related rumours in historical accounts in India and other countries, Prasad found that certain forms and content of rumour tend to recur across all societies caught in similar catastrophic situations, and he argued that these thematically-repeating rumours reveal the human disposition to revert to 'cultural and social inheritance' such as 'traditions, mythical beliefs, superstitions and legends' under conditions of stress (Prasad 1950: 141).

This particular genre of rumour, by anchoring myth in reality, is called 'type-rumours' by Prasad (1950) but classified as 'exemplary stories' by Kapferer (1990), with the former stressing the socio-cultural heritage and the latter highlighting the moral underpinnings

associated with these rumours. Smith (1984), in discussing what he characterised as the 'fluid' relationship between contemporary legend and rumour, identifies this type of rumour as 'legendary rumours' because they embed tradition in news-like narratives directed against named individuals or institutions. However, despite their thematic similarities, urban legends are a form of metaphorical storytelling detached by time and space limitations (Brunvand 1989), while rumours premised on pre-existing cultural themes are temporally and locally situated (Miller 2005).

In his analysis of rumours in late nineteenth-century colonial India, Yang concludes that most rumours, by embedding in the trajectories of indigenous politics, religion, and culture, 'acquired a regional or local constituency because they represented the undercurrents of popular *mentalités*' (1987: 500). In the Ming and Qing dynasties of imperial China, rumours were rampant across the nation, playing on the popular belief in the disruptive and hideous nature of demons, barbarians, sorcerers, and evil spirits (Kuhn 1990, ter Haar 2006). The tumultuous period at the turn of the twentieth century in China was especially marred by outbursts of this type of rumours (Cohen 1998). The wrenching years of the Great Cultural Revolution were also flooded with 'superstitious' rumours throughout China (Smith 2006).

The 2003 SARS outbreak: an overview¹

A mysterious human coronavirus, later defined by the WHO as Severe Acute Respiratory Syndrome (SARS), first occurred in Foshan, a city in China's Guangdong province, in mid-November 2002 and then broke out in two other cities in the province, before it quickly spread to other regions of China and 35 other countries spanning every continent within months. The outbreak of the lethal virus in Guangdong in early 2003 prompted a site investigation by an expert team comprising officials from the provincial government and the national Ministry of Health, which concluded on 21 January that the infection was atypical pneumonia and recommended measures of prevention and treatment. The team's findings and recommendations – despite their timely distribution to every hospital in the province upon release – did not receive much attention from health administrators, most of whom were on leave for the Chinese Spring Festival holiday. Meanwhile, as the Festival marks the peak travelling season in China, opportunities for SARS infections were significantly enhanced both within and across regions in late January and early February.

As more infections unfolded, news of the SARS outbreak was widely circulated through emails, cell phone-based short message services (SMS), internet-mediated chat rooms and bulletin board systems (BBS), and to a lesser extent, by the local media (Tai and Sun 2007). Concerned over the severity of the situation, the WHO questioned the Chinese government on 10 February, and received an official report from Chinese authorities the next day describing an outbreak of an acute respiratory syndrome with 305 infected cases and five deaths in Guangdong province. At the same time, in order to quell mass panic and maintain public order, local health officials held a press conference in Guangzhou on 11 February pronouncing the epidemic under control. Additionally, as is typical in official handlings of disastrous events in China, directives were sent to media outlets with specific instructions to tone down news of the disease.

Nonetheless, within the next few months, the virus quickly found its way to more localities in China, and sped along air travel routes to Hong Kong, Hanoi, Toronto and other metropolises worldwide. On 12 March, the WHO issued a global alert on the epidemic, and followed up with three further alerts in the same month on the detection and

prevention of the disease. While mounting evidence in mid to late March from worldwide infections pointed to Guangdong as the origin of the SARS virus, little information was made available through the state-sanctioned Chinese media, and Chinese government officials vehemently denied accusations from the international media that they were covering up SARS infections in China. Rising global pressure, however, forced the Chinese authorities to react. On 2 April, a State Council executive meeting was convened in Beijing specifically to discuss SARS prevention and control, leading to the establishment of a national emergency response committee to combat the disease. A turning point in official strategy finally came about on 17 April after an emergency meeting of the Politburo of the Standing Committee of the Chinese Communist Party, the highest decision-making body in Chinese polity. At the meeting, Chinese President Hu Jintao demanded an accurate, timely and honest reporting of the SARS situation at all levels of government agencies, and vowed to punish any act of disease information cover-up. From late April to June, a state-initiated anti-SARS 'People's War' was staged across China incorporating the participation of government agencies, the mass media, neighbourhood committees and institutional organizations. On 24 June, Beijing became the last city in China to be removed from WHO's SARS-infected areas, marking a milestone in the global health campaign against SARS.

Structural barriers in SARS communication within China

Marketisation of the media sector in China in the reform era has created an odd media environment in which a free economy exists side by side with a controlled media mechanism. Although media professionals show an unprecedented level of responsiveness to audience demand and interest, state-orchestrated ideological indoctrination is still an openly-embraced goal of the media landscape. Concerning the 2003 SARS episode, Huang (2004: 130) attributes the system failure in information flow during the initial stages to a 'deeply ingrained authoritarian impulse to maintain secrecy' combined with an 'obsession with development and stability' on the part of the local and state authorities alike. Inevitably, then, a fatal virus accompanied by the inattention to the situation by the official media would create a classic hotbed environment for rumouring during the SARS epidemic.

There is no doubt that the tightly-controlled socio-political environment and deficiency of reliable information from established media outlets created an intense level of ambiguity and uncertainty among the general public in China during the SARS outbreak. The unknown nature of the SARS virus compounded the situation dramatically. Ma (2005) made the astute observation that widespread SARS-related rumouring only occurred in China, but not in neighbouring societies also infected by the virus in 2003. The cause for this discrepancy, as Ma acknowledges, lies in the structural differences in China where the official media were under instructions to not to cover the epidemic in the early stages for fear of causing public panic and social instability.

Despite a few existing (primarily anecdote-based) scholarly analyses of SARS-related rumours (e.g. Zhou 2003, Ma 2008), a systematic, comprehensive, and in-depth study of the rumour processes has been lacking. This is rather unfortunate, considering the magnitude and virility of the epidemic as well as its global impact. This study, therefore, is intended to accomplish a twofold purpose in its investigation of SARS rumouring by examining the coverage of the rumours in the press and the particular nature of these rumours during the SARS outbreak in China in 2003. In particular, the emphasis is on the specific types of rumours in circulation and their timelines of dissemination.

Methods

Rumours analysed in this study were collected through major newspapers across China. Mass media have served as one well-established source of data collection for rumour researchers over the years (e.g. Allport and Postman 1965, Prasad 1950, Kapferer 1990). Because rumour contains elements of newsworthiness, mass media often aid the spread of rumours in their daily operations (Rosnow and Fine 1976). On the other hand, mass media are indispensable for the removal of ambiguity and clarification of critical information in situations of crisis – an essential step in combating rumour mongering (Rosnow and Fine 1976, Turner 1994, DiFonzo and Bordia 2007). It is for the latter reason that the Chinese media were fully mobilised in the later stages of the SARS outbreak in the government's all-out effort to disentangle prevalent rumours in communities throughout the nation. In this regard, the Chinese media provide an unusual avenue for identifying a wide range of popular rumours across regions in the country in the SARS case.

The newspaper stories were retrieved by a keyword search in the Newspaper Database section of the National Knowledge Infrastructure (CNKI) full-text service, the largest subscriber-based commercial content provider in China featuring a multitude of academic and trade publications. Its newspaper database contains digitised full-text content of 514 titles (as of the time of this search in late 2008), across the nation. The following procedure was utilised in retrieving the news stories for subsequent analysis.

First, a search using a combination of keywords of *feidian* ('atypical pneumonia', the Chinese term for SARS) and (*yaoyan*, the Chinese word for 'rumour', or *chuanyan*, the Chinese term for gossip, hearsay, or rumour), was performed in the full-text section of the database by limiting to news stories published within 2003. The rather liberal criteria were adopted to allow inclusion of all relevant stories in this research. The time frame was applied to 2003 because, although the first known case of SARS infection was retrospectively determined to be in mid-November 2002 in Foshan, Guangdong province (World Health Organisation (WHO) 2003), the first news story by the official media did not occur until in February 2003 (Abraham 2005). This step generated a total of 252 items.

Next, full text was retrieved and read for each of the 252 stories to determine whether the particular story should be retained in the study based on this criterion: the news story must contain *at least* one rumour incidence – defined as detailed reference to one (or more) specific event or person in the narrative. Therefore, stories merely mentioning rumours in passing without any specifics and rumours unrelated to the SARS epidemic were discarded. As a result, a total of 90 stories were found to be relevant and constituted the source for the eventual analysis.

The 90 stories were content analysed for the following information in relation to each rumour incidence: content; source in which the rumour was reported; starting date; channel(s) of circulation; frequency of mention in the news; and locations where the rumour occurred. The unit of analysis here is rumour incidence rather than the news story. A coding sheet was developed for the content analysis with detailed instructions, and two researchers independently coded all the news stories initially by following the instructions. This coding yielded an intercoder reliability of 94.6 per cent in pinpointing rumour cases, and the remaining cases involving disagreement were resolved through consultation. This led to a total of 91 rumour instances on which the ensuing results are based. In order to ensure data integrity, after the 91 rumour cases had been identified, the researchers went back to the original stories for one more round of recoding and fact-checking to ensure data accuracy in relation to each rumour occurrence.

Findings

SARS infection versus SARS rumouring

The 91 rumour incidents were mentioned a total of 288 times across 90 news stories representing 55 newspaper titles across the nation. Per prevalent practice by the Chinese media, we used province as a coding unit for locating areas of circulation for each rumour instance. Regions of transmission for nine of the 91 rumours were not revealed in the news stories due to two reasons: journalists left out the locality by making references to 'unspecified' or 'certain' locations in reporting six of these rumours, and linking the spread of three remaining rumours to the World Wide Web in general. Twenty-four of the 82 rumours that were tied to particular regions were each associated with multiple locations. As a matter of fact, the most-widely-circulating rumour was that of a talking new-born baby who mumbled the SARS-prevention recipe of lighting firecrackers, with varying versions spreading to 14 provinces within four days.²

Our tally pinpoints Guangdong and Beijing as the two regions ridden with the most rumours – the former was tied to 27 rumour incidences while the latter to 15 – for the obvious reason that these were also the regions hit hardest by SARS. In fact, our effort to correlate the number of rumour incidences with the cumulative number of confirmed SARS cases from the statistics released by the Ministry of Health as of 10 May 2003³ from province to province yields a Pearson correlation r of 0.72 ($p < 0.001$). This suggests that the degree of SARS infection is a strong predictor of the scale of rumouring from region to region.

Channels of rumour dissemination

Rumour has been typically associated with the verbal mode of communication, as demonstrated by Allport and Postman's (1965: ix) seminal definition in which rumours are characterised as being 'passed along from person to person, usually by word of mouth'. However, as Rosnow (2001) notes, this assumption is invalidated by the current information environment saturated by different platforms of mass media and emerging channels of computer-mediated communication over the internet (see also Bordia and DiFonzo 2004). Our findings indicate that word of mouth still played a vital role in the spread of SARS-related rumours. Among the 68 rumours with which specific channels of transmission have been identified in the news reports, about 40 per cent ($N = 27$) are associated with word of mouth. Although the mode of communication was not specifically mentioned in the news stories for as many as 23 of the rumours (probably because this was not of primary concern to the reporters), inferences can be made for the majority of them that these rumours were mainly spread verbally. Side by side with word-of-mouth transmission is the conspicuous presence of the internet in the rumouring process, with 26 rumours finding life in online BBS and chat rooms. Supplementing word of mouth and the internet are a variety of informal personal networks interconnected via SMS ($N = 18$), conventional phone calls ($N = 8$) and emails ($N = 7$). These are essentially today's grapevines that, by plugging interpersonal relationships into emerging technological devices, provide vital channels of communication at times of unfolding crisis. The prominent role of the internet and SMS in rumour mongering is highly consistent with the observation by Tai and Sun (2007) concerning the heavy dependence on the internet and SMS by the general public in the communication of SARS-related information during the epidemic.

Most mentioned rumours

In terms of per rumour mentions across the news, the one winning the most coverage – mentioned by a total of 29 stories – is the rumour that mainly circulated in rural areas with

the claim that blasting firecrackers keeps the evil SARS spirit away. The next most prevalent rumour, which claims that drinking mung bean soup at midnight protects one from the viral agent, appeared in 27 stories, while two rumour incidences – a talking new-born baby reveals secret SARS-fighting recipes, and Beijing will be barricaded in order to keep SARS out – each scored 21 mentions. Fifth on the list of most-mentioned rumours is that an old dumb man suddenly speaks out (revealing mysterious anti-SARS prescriptions), which was reported in 15 stories across different newspapers. Noticeably, four of the top five most popular rumours constitute various versions of modern urban legend (classified as legendary rumours in our discussion below). At the bottom of the spectrum are 49 rumours that were only mentioned once in the news reports, most of which are proto-memorates in our typology.

Typology of SARS-related rumours

Although efforts in rumour classification have been heavily influenced by Knapp's (1944) classic taxonomy (relative to their motivational factors) of pipe dreams, bogies, and wedge drivers, there have been significant variations in approaches to categorising rumours based on the particular schemes and circumstances involved. The 91 rumours identified in our study, we decided, were best divided into four distinct types according to their thematic prominence: legendary rumours; aetiological narratives; proto-memorates; and bogies. Legendary rumours – a term we borrow from Smith (1984) – include a variety of narrative forms that relate individual life and events in the setting of the SARS epidemic to traditional accounts of folktales and urban legends. By anchoring myth in reality, these rumours share a common thread in incarnating popular fantasies in real-life events and in personifying supernatural entities in mundane settings cast through otherwise ordinary people linked to a particular place and time.

Aetiological narratives are unfounded speculations and speculative claims on the cause, prevention, and cure of the disease. The widespread occurrence of this type of rumour is quite understandable considering the lack of critical information on the novel but fatal virus from the state-controlled media outlets in the early stages during the SARS episode. The third category, proto-memorates, encompasses those rumours that offer various types of alleged testimonials of SARS infections in different localities. The credulity of this type of rumour rests on what appears to be some kind of first-hand, eyewitness account of SARS contractions in the asserted vicinity. The term 'memorate' was first proposed by Carl Wilhelm von Sydow (as opposed to 'fabulate') to refer to a particular narrative genre that circulates by reproducing people's 'own, purely personal experiences' to an interested audience (cited in Dégh and Vázsonyi 1974: 225). However, as Dégh and Vázsonyi (1974: 226) point out, the classic Sydowian formulation in its strict interpretation must mean that 'a memorate can be known only by that single person and respectively by as many people as heard it from him [or her]'. In the folklore tradition, nevertheless, the multi-conduit and multi-channel nature of transmission makes it hard, if not impossible, to distinguish memorates from memorate-derivatives. Therefore, Dégh and Vázsonyi call all postulative (i.e. real as well as inferential) memorates 'proto-memorates'. We hence adapt this term to refer to variants of eyewitness-account types of rumours by stressing their told-by-friend-of-a-friend nature of transmission in the rumouring chain.

Bogies, our final category, range from purported city blockages to food supply shortages, and are the most diversified set of rumours in terms of content among all four types. Consistent with Knapp's (1944) original classification, bogie rumours capitalise on public fears and anxieties, and satisfy the public hunger for news by feeding the audience with self-proclaimed insiders' newswatches on the latest developments and movements.

As reported in Table 1, the most-occurring rumour type is proto-memorates, accounting for about 33 per cent of all rumours. The distribution of the remaining three types spreads quite evenly on the rumour spectrum, with legendary rumours and bogies making up about 22 per cent and aetiological narratives constituting about 23 per cent of the total incidences. It is a much more divergent picture, however, when we examine the frequency with which each type of rumour is mentioned across the news. Specifically, each legendary rumour averages about 6.4 mentions, followed distantly by a bogie's 3.3. Aetiological narratives, on the other hand, score an average of 2.3 listings, and proto-memorates, despite their dominant status in the total number of rumour cases, are the least likely to be repeated across stories (*mean* = 1.4). If we take the average number of mentions across multiple news stories as a valid measure of the amplitude of cross-regional rumour mongering (i.e. the degree to which a particular rumour is likely to recur across varying regions), then our evidence strongly suggests that legendary rumours made the strongest splashes at the times of the SARS crisis while proto-memorates were the most constrained in recurrence. This pattern suggests that legendary rumours, by embedding current events in cultural values and traditional beliefs, would be more likely to reverberate in the public imagination irrespective of location, whereas proto-memorates would be of primary peddling value to the local audience.

Salient themes with different types of rumour

Two consistent thematic threads weave the legendary rumours together. A slight majority of these rumours (*N* = 12) pertain to exorcist practices, superstitious beliefs, and religious rituals that are thought to deflect demons and to break the spell of the virus. Among them are blasting off firecrackers, drinking mung bean soup at midnight, lighting incense, burning paper money, particular rites performed by female shamans, and hanging traditional Chinese medicinal herbs (e.g. flagleaf and argy wormwood leaf) on one's doorframe. These beliefs

Table 1 *Distribution of rumour types*

<i>Rumour type</i>	<i>Thematic focus</i>	<i>N</i>	<i>%</i>	<i>Average mentions</i>
Legendary rumours		(20)	(22.0)	(6.4)
	Exorcism and superstitious beliefs and practices	12	13.2	6.6
	Supernatural revelations	8	8.8	6.0
Aetiological narratives		(21)	(23.1)	(2.3)
	Preventive measures	13	14.3	2.4
	Causal claims	6	6.6	3.0
	Virulence	2	2.2	1.5
Proto-memorates		(30)	(33.0)	(1.4)
	Local infections	24	26.4	1.5
	Personal contact with SARS patients	4	4.4	1.0
	Hospitalisation	2	2.2	1.3
Bogies		(20)	(22.0)	(3.3)
	City blockades/institutional closures/curfew	8	8.8	4.8
	Insiders' newflashes	8	8.8	2.1
	Supply shortages	4	4.4	2.8
Overall		91	100	3.2

and prescriptive behaviours are intricately consistent with the repertoire of century-old Chinese religious, mythological and cosmological rituals of offering food and spirit money to worship, and pray for the blessings of, gods, ghosts and ancestors (Wolf 1974, McCreery 1990, Anagnost 1987, Sangren 1987), and the well-trodden Chinese folklore traditions of public séances and spirit mediums practised by 'old ladies who speak to spirits' to save mundane souls from deity-inflicted illnesses (Potter 1974: 207).

The second subcategory of legendary rumours consists of divine revelations through a variety of supernatural phenomena manifested in incarnations and personified acts. These include magical episodes of mumbling new-born babies, dumb persons suddenly speaking out, and talking toads and parrots. The content of the speech invariably points to some mystical remedies and countermeasures such as those mentioned before. Other rumours in this subcategory are sightings of the python goblin and rat-devouring dragon in different localities, thus leading to the speculative suggestion that people born in the years of the rat, dragon, and snake had to perform certain prescribed rituals in order to dispel SARS from them. All these rumours are well entrenched in popular Chinese folklore beliefs in viewing an assortment of supernatural and paranormal phenomena as ominous signs of imminent danger and pending disasters (Wang and Xu 1992). A remarkable feature about the legendary rumours is that their path of circulation is predominantly traced to rural and outland regions in China: among the 17 legendary rumours for which particular localities of spread were identified, 16 of them were associated primarily with remote villages and faraway townships, and the one that had an urban life was circulated in the northern city of Tianjin. Thus an unmistakable pattern for contemporary urban legends in China is its rural nature of vitality. The most plausible explanation lies in the socio-geographic nature of China's population demographics: compared with their rural counterparts, city dwellers are generally better educated, and have easier access to modern medical facilities and high-quality public health information. Therefore, rural residents are more likely to conserve age-old superstitious practices and cultural values in finding non-medical solutions to avert such a monstrous calamity as SARS.

In the event of any major medical crisis, questions of the cause, prevention, and treatment will invariably dominate public communications. While legendary rumours perceive the misfortune of SARS as emanating from the whims of malevolent supernatural forces, aetiological narratives ascribe naturalistic causes to the epidemic and tend to prescribe healing to empirical therapeutic techniques deeply rooted in age-old traditions and practices. A substantial number (13 out of 21) of rumours in this group focus on a variety of preventive measures, such as drinking isatis root granules (a popular way to enhance immunity in traditional Chinese medicine), consuming iodised salt, practising Falun Gong, smoking nicotine, fumigating vinegar, drinking Chinese white liquor, body-washing in salt water, using transfer factors and immunoglobulin, and injecting imported flu and other vaccines.⁴ In relation to its causes, SARS has been rumoured to be a mutant strain of avian flu/mouse plague/anthrax, or a particular type of US-developed biochemical virus, or a genealogical variant of the bird flu virus that had occurred in Hong Kong a few years earlier. Additionally, one rumour attributes the cause of SARS to iodine deficiency – this is a word play on *feidian*, an abbreviation of 'atypical pneumonia' in Chinese, as the first Chinese character *fei* means non, and the second character, *dian*, is homophonous with the Chinese word for iodine. Two rumours centre on the deadly nature of the virus: mere face-to-face encounter with a SARS patient can be fatal, and even doctors who have had contacts with the virus cannot escape death.

The other two types of rumours are not directly related to the virus per se but rather concern events and happenings in one's own or neighbouring communities as a result of the

spread of the virus. Among the 30 proto-memorate rumours, 24 report SARS infections in metropolises (e.g. Beijing, Guangzhou, Shanghai, Xuzhou, Hefei, Changchun, Suzhou), local supermarkets, factories, college campuses, villages, construction sites and corporate offices; four rumours revolve on so-claimed personal accounts of direct contact with SARS patients, and two pertain to transfer of SARS victims to local hospitals.

As for bogies, a number of them reflect elevated public anxiety and heightened speculation about city closures (e.g. Beijing, Tianyuan, Hohhot), highway blockages, airport shutdown and curfew in Beijing, and closings of college campuses, cafeteria and other facilities. Other rumours come in the form of presumed insiders' news updates about forthcoming moves and pending measures by the national and local authorities, with one claiming the latest number of SARS patients to exceed one million in China (as of late April), and another alleging the number of SARS-phobes in China to reach 25 million (as of early May). Four bogies relate to predicted shortages in the supplies of daily necessities such as rice, vegetables, salt, and cooking oil across locations. The widespread rumouring in proto-memorates and bogies apparently thrived on the popular hunger for news during the unfolding SARS crisis.

Timelines of rumouring versus news coverage

Our next analysis compared the dates when the rumours started with the dates when they were covered in the news. Because the same rumour might have been in circulation in different localities at different times, it is possible in our coding for one rumour to be associated with more than one originating date. Likewise, the same rumour may be linked to multiple coverage dates as it might have been covered by different media outlets at different time frames. The 12 rumour cases for which originating dates could not be pinpointed were excluded in this analysis.

Figure 1 visually maps out the dates of origin and the dates of coverage for the 79 rumours with valid data. Following the typical Chinese tripartite practice of approximating dates in a

Figure 1 *Timelines of rumour origin versus press coverage*

month, we divided each month into three sections as indicated by 1 (the first 10 days), 2 (the mid 10 days), and 3 (the last 8, 10 or 11 days) in the figure. For December 2002 and January 2003, however, we only used the full month as the recording unit because most of the rumour incidences reported to have occurred in those months were only associated with the months.

As revealed in Figure 1, rumouring responded rather quickly to the SARS outbreak, and its pattern parallels nicely the trajectory of the epidemic overall. While the first known SARS case was traced to mid-November 2002, three more cases were reported in the following month scattered in different cities (Abraham 2005). Meanwhile, as shown in Figure 1, five rumours were reported to be in circulation in December 2002, followed by four in January 2003 when the disease slowly found its way around in other parts of Guangdong province. During the first stage (from November 2002 to March 2003) of the SARS crisis, rumour activities reached a small peak in mid-February 2003, and died down quickly thereafter until its revitalisation in April.

Two landmark events had significantly shaped the course of development during the SARS outbreak: one was the move in mid-February by the Guangdong provincial authorities to suppress coverage of the disease and to issue public assurances that SARS was under control, the other was the decision by the top-level leadership, under mounting domestic and global pressure, to institute a policy of transparency and honesty in reporting the infectious disease, which was publicly pronounced in a press conference in Beijing on 20 April (Abraham 2005). The official effort to silence the media on SARS-related news in February created the false impression among the general public that the epidemic was effectively under control, and rumouring died down in March consequently. However, the severity of the situation across different regions of China in early April made it impossible to keep the secrecy of SARS infections in the country any longer. In the absence of reliable information from the official media, rumour mongering escalated steadily throughout the month of April.

In terms of covering the rumours, the newspapers toed the official lines masterfully. There was a total blockage on SARS rumours in early April, and only one news story was published from 11 April to 20 April. This was followed, however, by an outpouring of news stories once the media were unleashed in late April. Newspaper coverage displays a distinctive two-peak pattern in covering SARS rumouring: one peak was in the last 10 days of April and the other was in mid-May. As shown in Figure 1, the sudden switch in late April from too little to too much information, and from a suppressed number of SARS cases to thousands of infected patients as revealed by the media produced the unanticipated effect of immediately intensifying rather than alleviating public anxiety as reflected in the scale of rumouring. The most plausible explanation for the second peak of rumour coverage by the newspaper in mid-May is that this was directly triggered by the escalation of rumour mongering in late April.⁵

There are significant variations among the different types of rumours from the overall pattern displayed above. Figure 2 dissects the timelines of rumour incidences across rumour types. Unsurprisingly, aetiological narratives dominated rumour mongering at the start of the virus outbreak. Proto-memorates also occurred early on, albeit on a much smaller scale. Bogies led the charge in early April when SARS was vehemently making inroads into new territories in China. While all three other types of rumour went on a dramatic decline from late April to early May following the government's 'all-information-out' mandate, legendary rumours alone, which experienced the least occurrence in early stages, climbed to a new height in early May. Evidently, outbursts of transparent information removed much of the previous ambiguity on the scope, scale, and nature of

Figure 2 *Timelines of rumour incidences by type*

the infections but triggered a public search for magical solutions in their stockpiles of folklore beliefs and practices.

Limitations

We can obviously only go as far as warranted by the data at hand. While our discussion has touched upon multiple aspects of rumour typology and newspaper coverage, there is little we can offer in the investigation of rumour distortion in connection to the processes of levelling, sharpening and assimilation as revealed in Allport and Postman (1965). The nature of news reporting means that most reporters based their narratives predominantly on the latest versions of the rumours at the time of coverage, which makes it impossible for us to systematically look at the dynamics of rumour transformation in this research.

It would be presumptuous to assume that the rumours we reported here are even close to the full gamut of rumouring across SARS-plagued China in 2003. Additionally, we must highlight the nature of incomplete information in many news stories with respect to the variables of our interest in this study (e.g. channels of communication, regions of infection and rumouring, dates of origin).

Conclusion

This paper presented findings on multiple dimensions of SARS-related rumouring in China during the 2003 epidemic. The newspaper publicity of rumour was apparently a pivotal part of the state-orchestrated anti-rumouring strategy, especially in the later

stages of the epidemic. But this creates the added advantage for the researchers to gain access to an unusually large pool of rumours in our analysis. The strong correlation between rumour infections and rumour incidences across the different regions in China revealed in this study suggests that higher levels of virus incursions created a more fertile rumouring environment as people struggled to make sense of an unfolding public health crisis in the absence of reliable information. With respect to channels of dissemination, while SARS rumouring still found prolificity in word of mouth, new platforms of communication led by internet-based forums, BBS, and online chat rooms as well as emerging networks of cell-phone-based text messaging also played important roles. This has significant implications for understanding the dynamics of communication under circumstances of public crisis and mass panic. This point is especially relevant for the Chinese authoritarian information environment, which was incapacitated by the velocity and scope of the new communication networks in bypassing traditional barriers to get the word out during the SARS outbreak.

Rumour is open to various methods of analysis or classification (Knapp 1944). Our thematically-driven analysis led us to identify four distinct types of SARS-related rumours: legendary rumours, aetiological narratives, proto-memorates, and bogies. As socio-cultural constructions of clinical and medical realities, theories of disease aetiology have been developed cross-culturally to reflect the specific 'living conditions and resources' of the various peoples throughout human history (Baer *et al.* 1997: 191–208). By tapping into the age-old repertoire of magico-religious beliefs and practices, legendary rumours present a variety of discourses that correspond well to the theories of supernatural causation as elaborated in Murdock's (1980) scheme of disease aetiology. Murdock's cross-national analysis of data from 186 societies led him to identify three theories with which people posit their maladies and ailments to supernatural assumptions: theories of mystical causation; theories of animistic causation; and theories of magical causation (Murdock 1980:17–27). All these three types of theories have found manifestations in the list of legendary rumours identified in our study. Thus superstitious beliefs and practices are alive and well in China, and they still play a prominent role in people's life at times of major epidemic crisis.

Aetiological narratives present theories of natural causation and healing in relation to SARS. The overwhelming focus on preventive and healing measures reflect the widespread panic and soaring anxiety as well as the prevailing desperation among the general public in the face of an unknown fatal virus. At the same time, people tend to look for therapeutic solutions in their pools of established, familiar routines to build the first line of defence. Proto-memorates and bogies, on the other hand, are primarily voluntary acts by the public to improvise news in response to the inaction of the state-sanctioned media at moments of a major crisis. The most convincing evidence to support this point comes from the finding that rumouring stories of local infections dominate all subcategories of incidences.

With regard to recurrence, legendary rumours are by far the most likely to find resonance across regions, while proto-memorates tend to be the most local in circulation and the least likely to repeat in other localities. In relation to timing, swirling rumours in the early stages displayed a lopsided focus on the causes and prevention of the disease, and legendary rumours dominated rumouring activities in the later stages. As Smith (2006) observes, despite intensive government onslaught in the decades under Mao's rule, superstitious rumours maintained a vigorous existence, and they staged a remarkable resurgence in the post-Mao reform era. The vitality of this comeback, our evidence suggests, is the most ferocious in rural and outland areas.

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Notes

- 1 Narrative in this section has drawn from coverage of SARS by popular Chinese press as well as discussions in Abraham (2005) and Knobler *et al.* (2004: 1–24).
- 2 See the in-depth report titled ‘Rumours spread to fourteen provinces within four days’ by Guangzhou-based *Southern Weekend* on 15 May 2003, available at <http://www.southcn.com/weekend/commend/200305150003.htm> (Accessed 5 February 2010).
- 3 See the news summary titled ‘The latest epidemic update’ by *Guangzhou Daily* on 10 May 2003, available at: http://gzdaily.dayoo.com/gb/content/2003-05/10/content_1038802.htm. Date last accessed 2 March 2010).
- 4 In February 2003, the general public were panicking and stockpiling medical supplies to the extent that all major antivirals, disinfectant sprays, immune-enhancing traditional Chinese herbal medicines were sold out in most pharmacies in Guangzhou and neighbouring cities. In particular, prices for isatis root granules and white vinegar skyrocketed more than threefold within days. See the report by *Southern Weekend* on 13 February 2003 available at <http://news.sina.com.cn/c/2003-02-13/1412906546.shtml>. Similar scare-buying swept many other Chinese cities in March and April as the SARS crisis escalated.
- 5 As one anonymous reviewer notes, patterns of press coverage may reflect both the scale of rumouring and the natural history of the news cycle. This point is particularly relevant for the state-sanctioned Chinese media. It would be naïve to assume that rumouring would totally die down in June and July from its peak days in April, considering the magnitude of the epidemic and its impact on social life.

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