The Storm of Question Marks: A Computational Ethnography of Political Distrust and Symbolic Resistance in Bilibili Danmaku

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Abstract

In China's contemporary digital sphere, state media and pro-government influencers actively promote optimistic narratives about national rejuvenation, institutional advantages, and economic achievements. On the video-sharing platform Bilibili, such narratives frequently trigger an arresting visual response: a sudden torrent of "?" danmaku (bullet comments) flooding the screen. This "storm of question marks" has become a recognizable cultural pattern among younger users. While it can appear humorous or spontaneous, this practice may encode subtle political meanings—doubt, irony, or resistance toward hegemonic discourses. The political and affective significance of this pattern, however, remains empirically underexplored.

This extended abstract presents a mixed-methods study that treats question mark danmaku as digital micro-acts of infrapolitics—"low-cost, high-context" gestures that signal skepticism without overt dissent. Building on theories of political trust and critical citizenship (Easton, 1965; Levi & Stoker, 2000; Norris, 2011), encoding/decoding and discursive resistance (Hall, 1980; Fairclough, 1995), and Scott′ s (1990) concept of infrapolitics, the project asks whether the frequency and semantic function of "?" danmaku in response to positive political and economic narratives can be interpreted as implicit indicators of political distrust and oppositional decoding in China′ s tightly managed media environment.

The study proceeds in three steps. First, it theorizes question mark danmaku as a modality of oppositional decoding (Hall, 1980) and symbolic resistance. Positive political narratives—celebrating growth, institutional advantages, or national rejuvenation—are encoded as hegemonic meanings. A sudden eruption of "?" danmaku constitutes a visible, collective re-framing: viewers suspend affirmation and convert celebratory scenes into an ironic spectacle of doubt. Following Scott (1990), we conceptualize this practice as infrapolitical: anonymous, ephemeral, and plausibly deniable, yet legible to in-group audiences as a sign of skepticism or disbelief. This perspective bridges literatures on

political trust, critical citizens, and digital culture by shifting attention from explicit textual criticism to symbolic, non-verbal gestures embedded in platform-specific affordances.

Second, we develop a research design to test whether question mark storms systematically track positive political or economic narratives. The corpus consists of 500–1,000 videos from verified or popular creators (100,000+ followers) in Bilibili's Knowledge, History, and Current Affairs sections, complemented by a control set of non-political videos from the same creators. For each video, we collect metadata (title, upload date, views, uploader category), full danmaku streams with timestamps, and subtitles or speech-transcribed text where available. The key independent variable is the presence and intensity of positive political/economic narratives at specific time points, detected through a custom lexicon of regime-affirming terms (e.g., "great rejuvenation," "institutional advantages") and semantic similarity scoring using Chinese language models. The primary dependent variable is the density of "?" danmaku within 0–10 s after each narrative segment, normalized by total danmaku volume. A second dependent variable captures the semantic function of "?" danmaku through categorical labels (sarcasm, doubt, confusion, mimicry, other), generated by large language models (LLMs) and validated on a human-coded subset.

Third, the study combines interrupted time series and event-study models with computational semantic analysis. We identify narrative time points ($t = 0$) where the model detects positive political or economic content, then estimate changes in question mark density in post-event windows (0–10 s, 0–5 s, 0–2 s), while controlling for creator type, video topic, year, and baseline danmaku volume. Placebo tests using random timestamps and non-political segments assess whether observed spikes are content-dependent rather than artifacts of creator style or audience culture. For segments exhibiting statistically significant increases in question mark density, we extract danmaku slices (10 s before and after) for semantic interpretation. Zero-shot LLM classification assigns each "?" danmaku to functional categories such as sarcasm/irony,

questioning/doubt, genuine confusion, mimicry/memeing, or other. A manually annotated sample (approximately 300 danmaku) is used to evaluate classification accuracy, with a target F1-score of at least 0.80. Distributional analyses then test whether sarcastic and doubtful uses dominate over confusion or pure mimicry.

To justify the label of "computational ethnography," the project augments large-scale modeling with qualitative immersion in platform culture. This includes close reading of danmaku threads explicitly discussing "question mark culture," analysis of longer-form comments that interpret the practice, and—where feasible and ethically appropriate—short interviews or secondary accounts from Bilibili users. These materials help situate statistical patterns within participants′ own understandings, why they do so, and how they perceive the boundaries of safety and legibility under content moderation.

The study addresses two core research questions. First (RQ1), under what conditions do question mark storms proliferate in response to positive political or economic narratives? The working hypothesis (H1) is that segments containing positive political/economic narratives will be followed by a statistically significant increase in the density of "?" danmaku, relative to pre-event baselines, placebo timestamps, and matched non-political content. Second (RQ2), can the occurrence and semantic tone of these danmaku be interpreted as implicit indicators of political distrust or oppositional decoding? The corresponding hypothesis (H2) posits that the dominant semantic functions of "?" danmaku in these episodes will cluster around sarcasm, irony, and skepticism—rather than confusion or meaningless mimicry—indicating a collective stance of "critical spectatorship" toward official or pro-regime narratives.

Anticipated findings are threefold. Empirically, we expect to observe robust temporal associations between positive political/economic narrative segments and subsequent spikes in question mark density, even after adjusting for content type and channel-specific dynamics. Substantively, LLM-assisted semantic classification—triangulated with human coding and ethnographic interpretation—is likely to reveal that many question mark

storms serve as ironic commentary rather than requests for clarification. In this view, "?" danmaku become a compact, shared code for "we do not fully believe this" or "this is too scripted to be taken at face value." Normatively, the results would suggest that seemingly playful or ambiguous symbolic practices can function as barometers of political distrust in heavily moderated environments, extending the concept of critical citizenship into the realm of non-verbal, platform-native expression.

The project has several limitations. Interpretive ambiguity is inherent: the meaning of "?" is polysemic and context-dependent, and semantic classification can only approximate aggregated tendencies rather than reveal individual intentions. Temporal correlation cannot fully establish causal beliefs about political institutions; at best, we identify behavioral patterns consistent with skeptical decoding. Ethically, the analysis relies exclusively on publicly visible data, strips all user identifiers, and operates at an aggregate level. Nevertheless, given heightened risks for Chinese users, the study refrains from tracing specific individuals or linking behavior to off-platform identities.

Despite these constraints, the project contributes to three strands of scholarship. For computational political communication, it demonstrates how symbolic, non-verbal digital behaviors can be operationalized as measurable indicators of political affect and skepticism. For critical media and discourse studies, it extends Hall′ s (1980) encoding/decoding framework into algorithmically mediated commentary spaces, showing how oppositional readings emerge through platform-specific repertoires like danmaku storms. For digital ethnography and authoritarian politics, it offers a scalable template for studying micro-symbolic resistance in highly moderated media environments, where explicit criticism is risky but collective doubt can still surface in coded, deniable forms. As such, the "storm of question marks" on Bilibili is not merely an aesthetic quirk of interface design; it is a politically meaningful practice that reveals how young citizens negotiate trust, skepticism, and safety under conditions of constrained expression.

Keywords: political trust, digital infrapolitics, Bilibili, danmaku, computational

ethnography, China

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References

References

[1] Easton, D. (1965). *A systems analysis of political life*. Wiley.

[2] Fairclough, N. (1995). *Media discourse*. Edward Arnold.

[3] Hall, S. (1980). Encoding/decoding. In S. Hall, D. Hobson, A. Lowe, & P. Willis (Eds.), *Culture, media, language* (pp. 128–138). Hutchinson.

[4] Levi, M., & Stoker, L. (2000). Political trust and trustworthiness. *Annual Review of Political Science, 3*, 475–507. https://doi.org/10.1146/annurev.polisci.3.1.475

[5] Norris, P. (2011). *Democratic deficit: Critical citizens revisited*. Cambridge University Press.

[6] Scott, J. C. (1990). *Domination and the arts of resistance: Hidden transcripts*. Yale University Press.