

Conference: Governance of Social Listening in the Context of Serious Health Threats
Centre for Medical Ethics and Law
The University of Hong Kong

Remarks: *Social Listening and Infodemic—An Epidemiology for the Body Politic*

Larry Catá Backer (白 轲)

W. Richard and Mary Eshelman Faculty Scholar; Professor of Law and International Affairs
Pennsylvania State University | 239 Lewis Katz Building, University Park, PA 16802 | 1.814.863.3640 (direct) || lcb11@psu.edu

ABSTRACT:

These remarks focus on the interfaces embedded in the new approaches to infodemic. The first is between an epidemiology of pandemic (physical health) and infodemic (societal health). The second is between epistemological and normative human (social-political-health systems) and virtual (digital, predictive, and generative AI based systems). The third is between epidemiological and normative systems as they interconnect a pandemic. The model and the warning emerged during the COVID-19 pandemic. The start of a resolution appears to blend human and virtual, physical and social threats grounded in an objective of efficient management through the management of the body (medicine) and the social spirit (narrative). Social listening, especially as a tool of social epidemiology, begins to reveal its promise and its challenges, eight of which will be sketched out.

I want to start by thanking the organizers for inviting me to this marvelous conference where some extraordinary minds consider some of the more perplexing challenges of the modern age.

This is an age of epidemic, of pandemic, and now of *infodemic*. All of these words—and all of these conditions—have one thing in common. They share a *dēmos* in common—that is, they share a connection to a place and a people who, in these cases, suffer from a physical or moral pestilence. Indeed, each describes *a condition of plague*—an equally ancient term—which connotes both a condition of generalized infestation and the act of infiltration. Each, in its own way, also connotes pestilence—an infection of the body, including the body of the social collective, or something unwholesome, evil (physically and morally) and noxious. The underlying idea is of something that must be endured and eventually overcome. What the COVID-19 pandemic has exposed, beyond doubt, is the way that each of these X-demics feeds on the others thereby producing synergies of pestilence that affects not just a physical state, but also the moral-social health of the body politic.

Today I want to consider the concept of *infodemic* in the digital age.

What is infodemic's principal characteristics? We start with a definition. In its "How to Build an Infodemic Insights Report in Six Steps,"¹ WHO/UNICEF tell us that an "infodemic is an overabundance of information, accurate or not, in the digital and physical space, accompanying an acute health event such as an outbreak or epidemic." (Ibid., p. 1). Four important causative elements of infodemic pestilence can be extracted from this definition: First is that information is the central element of infodemic as plague. Second, is that a measurable quantity of information that exceeds a certain

unspecified threshold triggers effects detrimental to the human social organism. Third, is that information combines both analogue and digital sources; the invasive elements exist in physical and virtual spaces. Fourth, is that infodemic it is activated, in this instance, in the presence of a health related plague; it is, in effect, *constituted in relation to something else* of roughly equal magnitude.

We are further told that an infodemic consists of *an identifiable set of symptoms*. In the language of “How to Build an Infodemic Insights Report in Six Steps,” these consist of “questions, concerns, information voids (where people seek credible, accurate information but cannot find it), and circulating mis- and disinformation.” *Questions and concerns* are multi-directional signals. While it is in the nature of infodemics that affected communities of people have ‘questions and concerns;’ it is also as likely that these questions and concerns then raise questions and concerns among those tasked with combating the informational disfunctions causing infodemic. And the forms of questions and concerns raised also shape the parameters for defining these terms. *Information voids* are a more immediate and measurable symptom—built on references to what “not void” looks like. In this case it is the measurable difference between the totality of information available and the aggregate total of credible and accurate information about the identified topic as a function of (1) its existence, and (2) the measurable difficulty of finding a sufficient quantum of credible accurate information by a hypothetically ordinary person with a defined quantum of ideal training using some equally well defined technology or knowledge. All of this, of course, is affected by the circulation of *MIS and DIS-information*, which itself constitutes an important symptom and a definitional challenge in context.

And its effects on the body politic are dramatic, not just with respect to its formal constitution, but also with respect to its cross-over effects on health related plague. Its primary effects include “causing information overload and confusion; promoting stigma, eroding trust in health authorities; affecting mental health and negatively influencing health decisions and behaviours.” The severity of these, in turn, may be measured by the difficulty of “health authorities to respond effectively and protect the population’s health.” Nonetheless the terms are meaningless without a normative context in a specific space, place, and time.

The good news, however, is that there is a medicine for this pestilence—*social listening* or in the Chinese social monitoring (社交監聽 (Shèjiāo jiāntīng)). Here again, international organizations appear to be in the vanguard. In their “Finding the Signal Through the Noise”² a group of international organizations sought to provide guidance on the crafting and administration of this social medicine. They put forward the idea that social listening is a temporally contextual treatment, and one that is deeply tied to the physical contagion with which it is paired. When administered before the onset of physical plague, it can act as a vaccine. Here the focus is on the health of the body politic as related to the vaccine targeting. Nonetheless it can be administered during the course of the physical disease. In contrast to its use as a vaccine, here the treatment is the administration of medicine whose efficacy is tested against its power to alleviate the physical effects of the plague—info-, epi- or pan-demic. The overall modalities of social listening do not change; what can be refined touch on target and focus, and that is a function of the point at which social listening is deployed on the body politic; and by whom. What does change are the technologies available for efficient deployment. WHO/UNICEF, for example, focuses on a “taxonomy

based summary of computationally identified narratives (e.g., using a social listening taxonomy for linguistic analysis of social media data)” (“How to Build” p. 11).

Here one encounters an interesting external linkage—between the self-referencing world of health, on the one hand, and the vibrant markets- and politics-driven world of managing individual and consumer behavior through strategic analysis of, and intervention in, the chatter that constitutes mass sentience. The technology of social listening has seeped into all sorts of social relations and its use increasingly essential for developing structures of communication between mass society and producers of objects, norms, or social norms. In an August 2023 report, ReportLinker suggested that the social media listening market was expected to grow from \$7.41 billion to \$14.21 billion between 2023 and 2028.³ The range of available social listening tools available for purchase or as a service has been growing as well, as have rating protocols offered by companies in the ratings industry.⁴

Social listening itself has become more refined as the power of big data analytics and the freedom to roam of generative AI makes possible more intimate probing of the body politic from out of the chatterings of its components. For example, July 2023 reporting from *Forbes* describes the growing salience of *sentiment analysis* (情感分析), which “involves interpreting and classifying emotions within social media content. It provides insights into public opinion about a brand, product or service by evaluating whether the sentiment behind social media mentions is positive, negative, or neutral.”⁵ Aggregated and approached as a dynamic state of flux, it permits both assessment of outlook and a basis for monitoring the effectiveness of interventions designed to produce aggregated changes in attitude.

That characteristic of contextual analysis (of examining disease in place and space and on specific bodies) touches on perhaps the most important manifestation of social listening as a function of infodemic—its variable use as a course of treatment. These are administered by the doctors to the body politic to mitigate the worst effects of an infodemic. Their content is the stuff of politics, science, policy, administrative capability, the premises and limitations of law, and the cultural patterns of social relations in the place where treatment is to be administered. Again, “How to Build an Infodemic Insights Report in Six Steps,” is informative for revealing the structure of treatment strategies. Those six steps: (1) choose the question; (2) identify and select the data; (3) conduct an integrated analysis; (4) develop strategies; (5) develop an infodemic insights report; and (6) disseminate the IIR and track actions taken. These focus on the circulatory system of the body politic—its narrative and narrative pathways. The “How to Build” text applies this in its definition of narrative (p. iv). Narrative points to the health of the body politic as a function of the proper operation of its circulatory system which is made up of narrative and is itself the paths through which narrative travels:

In infodemic management context, narratives are units of analysis because they embed meaning, values and emotions that can explain how people understand and share pieces of information. These embedded components of a narrative can be hijacked or can blend with mis- and disinformation narratives which can divert people’s attention into inaccurate understanding and interpretation of information. (“How to Build” p. iv).

Narrative is not just the pathways and linkages within which information may be processed and delivered to the masses, and back again. Narrative is also a bacillus, a virus, an object that can infect the body politic and cause harm. That is the harm that amplifies the parallel harm to physical bodies in epi- and pandemic.

We are now in a position to pause and consider these efforts from a perspective of greater generality and perhaps to examine consequences. Even as humanity has been developing its epidemiology in the analogue—the physical realm—so, it appears, that there has there been a strong push to develop a parallel and *interlinked epidemiology for the virtual world*. The epidemiology of the abstracted body politic in infodemic—which is understood to be constituted through an endless flow of information representing constant iterations of functions constrained by framing principles of control and organization—now mimics epidemiology’s approach to the care of the physical body in epidemic, in surprising ways. This new parallel analogue and virtual *infodemiology* (“Finding the Signal Through the Noise, p. 6) applies the sensibilities and practices of epidemiology in the cause of a science of managing and mitigating an infodemic.

Again, they are rooted in a common focus—*demos*—a specific place and a specific people. They are founded on the sensibilities of aggregation and abstraction; each is built on the constitution of an aggregated body whose characteristics, movements, trauma, and healing, are a function of what Foucault in a more analogue age would have called the constitution of a population by the application of statistics.⁶ Each is based on listening, recording, aggregating, analyzing and judging. These impulses are the manifestation of the application of the fundamental principles of essentialization and reductionism—taking the essence of a thing by eliminating extraneous characteristics. The collection of these ‘essentials’ then serve as the bytes encoding a single character of the human on to societal programming.

From these facts—data points—it is possible to develop a truth that serves the collective. Truth is understood here in its modern sense of consistency with facts; but it draws on an older etymology of trustworthiness. That truth, though, is always a function of and related to the facts that have been aggregated as extraction of observation of symptoms; physical symptoms of individuals, and social symptoms of the body politic. Reduction and essentialization produces the composite person or the composite body politic—an incarnated abstraction that represents a generalized truth intensely related to the data streams (symptoms) from which it is drawn. From it, judgment is made possible—judgment about how to treat a disease; how to minister to the body politic. And it permits an examination of causes from out of the iterations of observations of the individual actions that produce this reduced and essentialized composite. In the case of the person—germs, bacteria, virus, chemicals and the like. In the case of the body politic we now have a name for the disease vectors: *MIS and DIS information*.

It appears that the impulse to observe, aggregate, judge, and act, deeply built into normative-empirical cultures in the Occident, as it emerged from the time of Hippocrates and his Epidemics.⁷ But it also features in non-Occidental frameworks in the rhetoric of rationally ordering reality around the human. Here one can draw on Guiguzi’s (GUAYGUTZE) concept of *intelligent naming* (明名 (Míng míng))⁸—of drawing distinctions accurately and of extracting truth in the process; and millennia later, of seeking

truth from facts (实事求是 (Shí shì qiú shì)). Humanity appears to apply the same ordering framework for the treatment of physical disease as it now applies, more scientifically, to the treatment of diseases of the body politic. That connection is intensified and transformed where the traditional focus on material data is now significantly augmented by virtual or digitalized manifestations ; and where the process of human rational processes has now been augmented, or perhaps transferred to, silicon based generative embodiments of cognition. This has relevance not just as an amusement for philosophers and the development of epistemologies in the age of AI; it is the basic principles around which one can intelligently maximize the utility of infodemic protocols consistent with the political-normative framework within which it is to be applied.

With this as a foundation, I want to devote the remainder of my remarks to considering some of the more interesting and relevant consequences of infodemic. Relevance focuses on policymakers, states, civil society organs, and the masses—and it targets the rise of parallel ontologies (that is of the science of existence, becoming, and reality) applied to the field of X-demics: epidemic, pandemic, and infodemics, all of which center on the human, and the human within a certain place, and time in physical and virtual space.

First, I have been considering some aspects of issues around the semiotics of listening—not in terms of output (mis and disinformation) but in the act of transmission—that is how information can acquire the character of MIS or DIS-information in its journey from source to object. Beyond the exogenous issue of the fundamental character of data in context (from the perspective of the object that is the bundle of data constituting information which may have inherent qualities of MIS and DIS) I have been curious about the endogenous character of communication as an element in the characterization of information. This lies beyond the contemporary debate on the exogenous character of “information” as (either in itself or in context) DIS or MIS information when produced, where targeted, and how presented. In other words and perhaps less abstractly—if one hears what one wants or needs to hear (because of the way that one is programmed), then is it possible to understand the nature of MIS and DIS as relational in the sense that its nature and impact is a function of the interaction between producer and recipient of data clusters with the character of information. The same applies in the context of generative AI and predictive analytics-based systems. This might be most usefully understood in the context of the COVID pandemic for which there are likely substantial lessons to be learned.

Second, the epidemiology of infodemic currently starts in the middle rather than in its beginning. By way of example, the marvelously helpful WHO/UNICEF approaches to managing narrative in infodemics through six step processes driven by a sophisticated social listening technology takes for granted the underling normative structures through which data, objectives, analytics are understood. But that is hardly ever the case. The mechanics of social listening and its implementation takes as a starting point the premises for authoritative action drawn from the core rules of the political-economic order of a place. And so on.

Third, these conversations are relational and self-reflexive. By that I mean that no sense of objective or of analysis is possible unless it is undertaken in relation to something. That “something” is usually a

reflection or a manifestation of what is sometimes called objectives but which may be better understood as an ideal state of things. That ideal state, in turn, reflects the relation between the actuality of social relations measured against its perfection, where that perfection realizes all of the principles, premises, and aspirations of the social order within which it is deployed. In the case of infodemic in the shadow of pandemic, the center of that self-reflection are the central organs of authority for disease management and their complex interrelations between international and national organs. But the *intersubjectivity of infodemic* and the construction of structures of social listening, are, in effect, driven by the way that these subjects see, relate, and interpret the elements of the world around them relevant to a particular task. The subject is always the center of all webs of reality.

Fourth, social listening is a two way street. One of the greatest underexplored possibilities of social listening and the body politic, especially under conditions of epidemic, lies in the ability to use social listening technologies not just to manage but to engage target populations. One can think of this as a mechanization and institutionalization of a tech structured “mass line” (群眾路線 (qúnzhòng lùxiàn))—the well-known operationalization of the principle of democratic engagement central to the Chinese political-economic system. But the operationalization of the Chinese mass line through tech and AI based modalities will present differently when the liberal democratic or developing state approach is used as a template.

Fifth, the effects of context and relational application raises issues of coordination and conflict management, the development of which has been elusive. The tragedy of the WHO’s internal bickering during the course of the COVID pandemic suggests that the techniques of social listening not only produce variation at the ground level, but it can substantially impede the work of coordinating bodies. And yet the management of the control of top level organs may be crucial to the success and development of operational level social listening based infodemic control measures applied to populations. The moral, of course is the ancient one inscribed on the Temple of Apollo in Delphi: ‘know thyself.’

Sixth, one can only understand the nature, character, and effects of MIS- and DIS- information only by reference to the ordering subject (for example, the people driving WHO’s work, or that at national levels). The terms have no solid referent other than from out of the premises, goals, objectives and world views of the entities who relate to information as either positive or negative stimuli in relation to some activity or state of mind that is positively important or threatening to the entity and its enterprise. MIS-information points to falsity or inaccuracy, which may be intentional or negligent. COVID vaccines will cause women to bear four headed children is an outlandish example. DIS-information are statements made with intention to deceive. But the nature of the deception may not be straightforward. For example, deception may lie in the identity of the speaker—as for example when an instrumentality of a foreign state seeks to project its voice into host state politics pretending to be a member of that political community. Or it can relate to the information itself for disruptive objectives, for example COVID origin debates.

Seventh, hovering over this landscape, this ecology, of MIS- and DIS-information is the spectre of intent. Intentionality suggests a freedom to choose—that is to act on a desire that is not compulsory. Interpretive

discretion at every level of the epidemiology of infodemics, shapes and drives the mechanisms in courses of treatment, the data selected, the identification of targets and objects. The identification and control of intent has been given its own field of regulation: accountability and compliance. But it is also a function of trustworthiness and ideology. In the context of social listening systems it becomes a matter of quality control—by coder, supervisor, state official or market. Someone has to be Scrum Master of this enterprise. This is tied to the epidemiology of narrative in the circulatory system of the body politic; its heart may be understood as the seat of intent and the core space of sentiment. But who knows the human or virtual heart?⁹ Yet heart may hide even from itself. And into this void may march generative AI:

Eighth, the last and potentially more far reaching—what had been a fairly straightforward parallel between the epidemiology of pandemic and that of infodemic has now been complicated by the insertion of data driven analytics, and especially of generative AI. On the one hand, generative AI is generated in the image of its creator. It exhibits all of the biases, foibles, and normative value choices of its coders. But as an iterative based operational system it can take its original “character” in directions that may not parallel those of its creators. And yet, the critical interface now in the operationalization of social listening systems depends on an alignment or at least a coordination between human personalities and their virtual generative selves. Humanity is barely at the start of a discussion of how this is meant to operate. Its governing organs have barely, and most crudely have begun a process of building normative structures (articulated as rules) around which that relationship may be advanced. These are all meant to mirror AI and physical life forms; it is not clear that this will work in the long run. Plural subjectivity may affect approaches to infestation in infodemic in yet to be understood ways; especially in the context of narrative control and the constitution of MIS- and DIS-information. More importantly, the character of MIS- and DIS-information will change in the flow of iterative communications and reflect the baseline conceptualization-cognition norms of those who code interpretation of facts and actions around them.¹⁰

Perhaps I will end these remarks, and open the sessions to come with a provocation from the realm of science fiction:

Humankind cannot expect to compete with intelligent machines forever, and the longer we attempt to do so, the further we drift from actual humanity. Our empathy for each other fades, dulled by the requirement to ignore our natural feelings for the machines in our machines.”¹¹

What sounds literary and contrived, in point of fact, well-describes the new *dēmos* humans now share in common with the tech and analytics humanity has created, ostensibly in our own image. Together they are constituting a new hyper epidemiology the subjects of which are physical people and programs, and the collective body of humanity and its virtual reflection in generative AI and its communicative fields of predictive and descriptive analytics.

Social listening is an important first step in that direction. But it is not the last. It is, instead, a gateway to better understand, and deploy, hybrid human-tech modalities for social relations in the physical and virtual worlds. And with that comes, as WHO understands, great challenges in meeting threats that may

be as much a part of the new normative landscape as are its promise. None of this will produce viable regulatory or operational responses—especially respecting human rights and ethics— if those fail to consider the core issues which, whether they like it or not, will both constrain and drive any such efforts.

¹ WHO/UNICEF, 2023. Licence: CC BY-NC-SA 3.0 IGO.

² “Finding the Signal Through the Noise: A landscape and framework to enhance the effective use of digital social listening for immunisation demand generation.”

³ ReportLinker, Report: Social Listening Market Size & Share Analysis - Growth Trends & Forecasts (2023 - 2028) (August 2023) Report ID 6484435 (Mordor Intelligence LLP), available [https://www.reportlinker.com/p06484435/Social-Listening-Market-Size-Share-Analysis-Growth-Trends-Forecasts.html?utm_source=GNW].

⁴ Influencer Marketing Hub, “Top 24 Social Media Listening Tools for 2023 [Brand Monitoring Tools]” (28 July 2023), available [<https://influencermarketinghub.com/social-media-listening-tools/>].

⁵ Rebecca Kowalewicz, “Sentiment Analysis In Advanced Social Listening,” *Forbes* (25 July 2023); available [<https://www.forbes.com/sites/forbesagencycouncil/2023/07/25/sentiment-analysis-in-advanced-social-listening/?sh=78f80e414183>].

⁶ Michel Foucault, *Security, Territory, Population: Lectures at the Collège de France 1977-1978* (Graham Burchell (trans); NY: Picador, 2007).

⁷ Paul MV Martin, Estelle Martin-Granel, “2,500-year evolution of the term epidemic,” *Emerging Infectious Diseases* 12(6) (June, 2006) 976-80. doi: 10.3201/eid1206.051263. PMID: 16707055; PMCID: PMC3373038.)

⁸ *Guiguzi: China's First Treatise on Rhetoric* (Hui Wu (trans); Carbondale: SIU Press, 2016), p. 59-60.

⁹ Luke 16:15 (““You are the ones who justify yourselves in the eyes of others, but God knows your hearts. What people value highly is detestable in God’s sight.””).

¹⁰ Jan M. Broekman, *Knowledge in Change: The Semiotics of Cognition and Conversion* (Dordrecht: Springer, 2023)

¹¹ S.B. Divya, *Machinhood* (NY: Saga Press, 2022), p. 283.