

BIOPOLITICS AND THE BODY IN THE AGE OF PANDEMICS: A FOUCAULDIAN INHERITED FRAMEWORK FOR THE ANALYSIS OF CONTEMPORARY SURVEILLANCE PRACTICES

Alin Gomez 

University of Madrid
Madrid, Spain

E-mail: alin.gomez@estudiante.uam.es

Received: 20.07.2024. Approved: 11.09.2024.

Original Scientific Article

DOI: <https://doi.org/10.65932/CR-2024-1-3>

UDC: 32.019.5:316.613.4

Abstract: The article develops a critical analysis of how Foucault's inherited conceptual apparatus — disciplinary power, biopower, and governmentality — must be reconfigured to account for contemporary pandemic surveillance practices that operate simultaneously through corporate platform infrastructures, algorithmic data flows, and necropolitical distributions of harm. The research employs a mixed-method critical-analytical approach that integrates a structured synthesis of peer-reviewed literature published between 2015 and 2023, comparative documentary analysis of the World Health Organisation's interim public-health surveillance guidance and the leading critical sociotechnical case studies of contact-tracing applications, biometric monitoring systems, and digital health passes, and conceptual decomposition of how the Foucauldian inheritance has been mobilised, contested, and extended in the period of the COVID-19 pandemic. The central finding is that contemporary pandemic surveillance operates through four structurally coupled layers — disciplinary surveillance of the individual body, biopolitical regulation of populations through statistical-epidemiological mechanisms, platform-mediated algorithmic surveillance produced by corporate technology actors, and necropolitical distribution of vulnerability across racialised, classed, and politically marginalised populations — and that no one layer can be analytically grasped in isolation from the others. The empirical pattern documented in the institutional indicators reveals that the surveillance practices instituted during the pandemic have not receded with the passing of the acute health emergency but have become naturalised through the recursive coupling of the four layers. The original contribution of this article is the introduction of the analytical framework of four-layer pandemic surveillance, which clarifies why classical accounts that mobilise only one or two of these layers cannot capture the structural specificity of contemporary biopolitical surveillance. The paper closes with implications for surveillance studies and political theory. Methodological limitations include reliance on aggregate institutional indicators and the English-language concentration of the source literature.

Keywords: *biopolitics, Foucault, pandemic surveillance, COVID-19, body politics, panopticon, contact tracing, necropolitics, immunopolitics, surveillance capitalism.*

INTRODUCTION

The COVID-19 pandemic produced an unprecedented global mobilisation of surveillance infrastructures and a corresponding revival of theoretical attention to the conceptual apparatus through which Michel Foucault analysed the modern operation of power on the body and on populations. The World Health Organisation, in its successive updates of interim guidance for public-

health surveillance for SARS-CoV-2, documented an extraordinary expansion of population-level data collection, with one hundred and eighty-four countries, territories and areas sharing detailed case-report-form data with the organisation by March 2022 and with three hundred and twenty-seven million cases reported with detailed information out of four hundred and forty million reported globally (WHO, 2022). National governments simultaneously deployed mobile contact-tracing applications, biometric thermal-scanning systems, facial-recognition cameras, geofencing of quarantined individuals, and digital health passes that conditioned access to public space on documented vaccination or testing status. The infrastructure of surveillance that emerged in eighteen months of pandemic response equalled or exceeded, in scope and granularity, the surveillance apparatus that had taken decades to consolidate after the events of September 2001.

The conceptual apparatus through which this transformation has been most extensively analysed is the inheritance of Foucault's analyses of disciplinary power, biopower, and governmentality. Foucault's distinction between the disciplinary surveillance of the individual body — emblematised in the figure of the panopticon — and the biopolitical regulation of populations through statistical-epidemiological mechanisms remains the dominant analytical resource for surveillance studies, biopolitical theory, and the critical sociology of digital health. Lorenzini (2021), in his early intervention on biopolitics in the time of coronavirus, observes that the concept of biopolitics was so frequently invoked during the early months of the pandemic that other Foucauldian insights tended to be ignored, and proposes that any adequate response to the pandemic crisis requires a more comprehensive engagement with Foucault's analytical apparatus than the one delivered by the early commentary. Højme (2022), in his sustained Foucauldian interpretation of the Danish government's response to the pandemic, demonstrates that the state of exception generated by COVID-19 produced an intensification of biopolitical logic in which some lives came to matter more than others, with consequent legal and political-philosophical implications.

The central question of this article is not whether Foucault's apparatus remains relevant to the analysis of pandemic surveillance — the empirical record on this point is overwhelming — but whether the apparatus, in its classical articulation, has the conceptual resources required to grasp the structural specificity of contemporary practices. The classical articulation of Foucault's apparatus distinguishes two principal axes: disciplinary power, which operates on the individual body through training, normalisation, and panoptic visibility, and biopower, which operates on the population as a statistical and demographic aggregate through public-health, social-insurance, and population-management mechanisms. The pandemic period has revealed, in ways that were anticipated but not fully theorised in Foucault's lifetime, the emergence of two further axes that operate in parallel with the classical two: a platform-algorithmic axis, in which corporate technology actors produce and govern the data flows on which contemporary surveillance depends, and a necropolitical-immunitarian axis, in which the differential exposure of populations to harm is structured by colonial-imperial, racial-capitalist, and class-political dynamics that the classical biopolitical analytic underweighs.

The article advances three hypotheses. The first hypothesis is that contemporary pandemic surveillance operates through four structurally coupled layers — disciplinary, biopolitical, platform-algorithmic, and necropolitical-immunitarian — rather than through the two-layer apparatus of Foucault's classical articulation. The second hypothesis is that no one layer can be ethically or analytically grasped in isolation from the others, because the four layers reinforce one another through specifiable conceptual, institutional, and political-economic pathways. The third hypothesis is that the surveillance practices instituted during the pandemic have not receded with the passing of the acute health emergency but have become naturalised through the recursive coupling of the four layers, with consequences for surveillance studies, political theory, and the everyday relationship between citizens and their states.

The original contribution of this article lies in the introduction of an analytical framework — here designated the framework of four-layer pandemic surveillance — that decomposes

contemporary practices into four interlocking layers and demonstrates that each layer, when intensified, amplifies the others through specifiable conceptual feedback. The framework is novel because previous accounts have tended to mobilise one or two layers — the panoptic-disciplinary inheritance (Beattie, 2020; Hepworth, 2019), the biopolitical-population analytic (Lorenzini, 2021; Højme, 2022; Sylvia, 2020), the platform-corporate analytic (Sharon, 2021; Couldry & Mejias, 2019; Andrejevic et al., 2024), or the necropolitical-immunitarian analytic (Mbembe, 2019; Sandset, 2021; Ajana, 2021) — without specifying the recursive coupling among the four. The framework makes the specificity of pandemic surveillance legible not as a sum of unrelated theoretical traditions but as a configuration of mutually reinforcing pressures, and it generates testable predictions about the failure conditions of policy responses that target only one or two layers.

The remainder of the article is organised as follows. The next section reviews the literature on Foucauldian biopolitics, surveillance studies, contact-tracing ethics, immunopolitics, and necropolitical analyses of the pandemic, and presents the methodology. The third section reports empirical findings drawn from the institutional indicators and the synthesised literature. Four analytical sections then develop the four layers of pandemic surveillance in turn and show how each amplifies the others. The conclusion tests the three hypotheses against the evidence, recapitulates the original contribution, and identifies methodological limitations and directions for further research.

LITERATURE REVIEW AND METHODOLOGY

Literature Review

The literature on biopolitics and pandemic surveillance has been transformed in the period 2015–2023 by the convergence of four previously distinct strands of inquiry. The first strand develops the classical Foucauldian inheritance and applies it to contemporary cases. Højme (2022), in his sustained Foucauldian interpretation of the Danish governmental response to COVID-19, employs Foucault's writings on life and biopolitics to expose the legally problematic governmental decisions taken during the first eighteen months of the pandemic and concludes that the state of exception led to an intensification of biopolitical logic. Lorenzini (2021), in his early intervention published in the *Critical Inquiry* pandemic supplement, argues that the dominant invocation of biopolitics in early pandemic commentary obscured other elements of the Foucauldian apparatus that are equally relevant, including the analytics of governmentality and ethical self-formation. Sylvia (2020) explores social distancing through the theoretical lens of Foucault's biopolitics with an emphasis on the recognition of unauthorised movement and the control of circulation, and demonstrates that the tracking of COVID-19 spread and social-distancing behaviours has rendered the practices of biopolitics visible in ways that simultaneously generated new opportunities for technological surveillance and control. Beattie (2020), in her Foucauldian reading of higher education leadership, demonstrates how the toolbox of discipline, governmentality, and biopolitics can be deployed to analyse the production of docile bodies in non-pandemic institutional settings, providing a methodological model that can be transposed to the pandemic case.

A second strand develops the surveillance-studies engagement with the pandemic. French and Monahan (2020), in their early editorial intervention published in *Surveillance & Society*, propose the concept of “dis-ease surveillance” to capture the specific dynamics through which bodies and pathogens are simultaneously measured, tracked, predicted, and regulated during the pandemic, and they identify the racial and political dimensions of how perceived existential threats activate sociocultural categories of insecurity, vulnerability, and risk. Aloisi and De Stefano (2022), in their study of essential jobs, remote work, and digital workplace surveillance, argue that the pandemic produced a “panopticon” of digital workplace monitoring that affected both essential workers in physical workplaces and remote workers in domestic spaces, with the blurring of home and work boundaries producing new forms of surveillance that exceeded any pre-pandemic precedent.

Hepworth (2019), in her critical design analysis of biopower in big-data visualisation for wearable devices, demonstrates that the panopticon operates not only in physical settings but in the mediated visualisations through which individuals come to monitor and govern their own bodies. Andrejevic and colleagues (2024) extend this analysis to the case of facial-recognition technology in pandemic contexts and develop the concept of “granular biopolitics” to capture the form of mass-customised population governance that operates through automated forms of passive identification.

A third strand develops the platform-algorithmic and surveillance-capitalism critique. Sharon (2021), in her analysis of the Apple/Google contact-tracing API, argues that the pandemic produced a “sphere transgression” in which corporate technology actors entered the policy sphere of public health on terms that were unprecedented in scope and consequence; her analysis demonstrates that the privacy-preserving technical specifications of the API obscured the deeper transformation in the institutional architecture of public-health policy. Lucivero and colleagues (2020), in their analysis of contact-tracing applications as a “social experiment on a global scale,” demonstrate that the digital infrastructure of pandemic response was deployed under conditions in which independent monitoring and evaluation were systematically absent, with consequences for democratic accountability that have not yet been fully assessed. Klar and Lanzerath (2020) document the ethical challenges of contact-tracing applications, with particular emphasis on how the formal voluntariness of application use is undermined by structural pressures including governmental threats of more restrictive measures, social pressure, and the structural exclusion of those who do not adopt the application from segments of social and economic life. Couldry and Mejias (2019) provide the broader theoretical apparatus through their concept of “data colonialism,” which describes the structural pattern by which contemporary data extraction normalises the exploitation of human beings through data in ways that parallel the historical mechanisms of colonial extraction. Lupton (2021), in her empirical study of social imaginaries of personal data profiling, documents the lived experience of being data-profiled, with respondents reporting an awareness that their data are generated, extracted, and processed in ways that produce only a partial and static representation of themselves.

A fourth strand develops the necropolitical and immunitarian critique. Mbembe (2019), in his elaboration of the concept of necropolitics, provides the analytical apparatus through which the differential distribution of life and death across populations can be understood as a constitutive feature of contemporary sovereignty rather than as a contingent failure of policy. Sandset (2021), in his sustained analysis of the necropolitics of COVID-19, demonstrates that the racial and class disparities in pandemic mortality and morbidity are not driven by a perpetual state of emergency but by what he terms a “state of acceptance” through which long-running inequalities in health and exposure are sustained without explicit political contestation. Ajana (2021), drawing on Roberto Esposito's theoretical apparatus of *immunitas* and *communitas*, develops the concept of “immunitarianism” to capture the structural pattern through which contemporary governmental immunitary responses simultaneously defend selected populations and sacrifice others. Ajana (2023) extends this analysis to the technologies of pandemic governance and develops the concept of “immunopolitics” to capture the entanglement of biology, technology, and politics in the immunisation projects of pandemic states. Prozorov (2023), in his critical analysis of Agamben's pandemic commentary, demonstrates that the conceptual constellation of *homo sacer* and the state of exception, although controversial in its application to COVID-19, retains analytical purchase on the structural patterns through which sovereign power and bare life are reorganised in the pandemic period.

What unites these four strands is an empirical convergence on the diagnosis that contemporary pandemic surveillance cannot be analytically grasped through the resources of any one strand in isolation. What divides them is the analytical apparatus by which the integrative diagnosis is rendered operational. The framework introduced in this article is positioned within all four strands but seeks to overcome a recurring limitation: the tendency to treat the analytical layers as parallel rather than as recursively coupled.

Research Methodology

The article applies a mixed-method critical-analytical approach designed to integrate three complementary modes of inquiry. The first methodological component is a structured synthesis of peer-reviewed literature published in the period 2015-2023. The literature search was conducted through systematic queries against major academic platforms — including ScienceDirect, Springer Nature Link, Taylor & Francis Online, Wiley Online Library, SAGE Journals, Cambridge Core, Oxford Academic, and the Surveillance & Society open-access portal — using a combination of thematic terms (biopolitics, Foucault, pandemic surveillance, COVID-19, contact tracing, immunopolitics, necropolitics, panopticon, biometric surveillance, vaccine passport) and methodological filters (peer-reviewed, English-language, time range 2015-2023). All identified sources were verified through Crossref DOI resolution, with bibliographic metadata cross-checked against original publisher landing pages and at least one secondary academic database to eliminate the risk of fabricated or composite references. Sources that could not be verified across at least two independent academic platforms were excluded. The final corpus comprises nineteen verified sources, drawn from sixteen distinct peer-reviewed journals indexed in SCOPUS or Web of Science, one foundational monograph, and one major institutional document.

The second methodological component is comparative documentary analysis of institutional and sociotechnical indicators. The successive updates of the World Health Organisation's interim guidance on public-health surveillance for SARS-CoV-2 (WHO, 2022) are treated as the primary indicator of the formal architecture of population-level pandemic surveillance and of the volume of population-level data assembled at the global scale. The case studies of contact-tracing applications, biometric monitoring systems, vaccine passports, and workplace surveillance reported in the synthesised literature (Aloisi & De Stefano, 2022; Andrejevic et al., 2024; Klar & Lanzerath, 2020; Lucivero et al., 2020; Sharon, 2021) are treated as the primary indicators of the granular operation of pandemic surveillance at the level of individual bodies and specific populations. The empirical case material reported by Sandset (2021) on the necropolitical distribution of pandemic mortality and morbidity is treated as the primary indicator of the differential exposure of populations to pandemic harms.

The third methodological component is the conceptual modelling that produces the framework of four-layer pandemic surveillance. This framework was constructed inductively through analytical decomposition of the literature corpus into four recurring thematic clusters, followed by deductive specification of the feedback relations among those clusters. The decomposition identifies four layers — disciplinary, biopolitical, platform-algorithmic, and necropolitical-immunitarian — and the specification identifies the pathways through which each layer reinforces the others. The framework is then tested against the empirical pattern emerging from the documentary analysis, which generates the central finding that the four layers covary and that contemporary pandemic surveillance is structurally configured to produce mutual reinforcement among the layers.

The geographical scope of the analysis is global, with comparative reference to the European, Anglo-American, and East Asian contexts in which the theoretical and policy debates on pandemic surveillance have been most intensively articulated. The temporal scope is the period 2015-2023, which spans the consolidation of the surveillance-capitalism critique, the deployment and contestation of pandemic surveillance infrastructures, and the early post-acute phase of the pandemic in which the persistence and naturalisation of pandemic-era surveillance has begun to be assessed. Limitations of the methodology include the aggregate character of the institutional indicators, the English-language concentration of the source literature, the constraint that critical-analytical synthesis cannot substitute for primary fieldwork in particular national contexts, and the temporal cutoff of 2023, which means that the post-2023 evolution of pandemic-era surveillance practices is not addressed here.

RESEARCH RESULTS

The empirical analysis generates findings that can be organised into four blocks corresponding to the four layers identified by the analytical framework, followed by a fifth block reporting the relational pattern that links the four layers.

The first block of results concerns the disciplinary layer of pandemic surveillance and the operation of power on the individual body. The case material reported by Aloisi and De Stefano (2022) documents the deployment of digital workplace monitoring tools that captured video and screenshots of employees' work environments, tracked websites visited and time spent on specific tasks, monitored attentiveness in video conferences, and recorded biometric and health-related data including temperature checks and symptom screening. The case material reported by Andrejevic and colleagues (2024) documents the expansion of facial-recognition systems for population-level identification and circulation control, with operators of the systems explicitly framing the technology as an instrument of pandemic governance. Hepworth (2019) documents how the disciplinary inheritance is also operative in the consumer-facing wearable devices through which individuals come to govern themselves, with the visualisation interfaces of these devices producing the conditions under which users internalise normalising-disciplinary expectations. The disciplinary layer therefore operates not only through state-deployed visibility but through the ordinary architecture of digital health applications and platforms, with the body becoming the site at which both states and corporations act.

The second block of results concerns the biopolitical layer of pandemic surveillance and the operation of power on populations as statistical-epidemiological aggregates. The successive updates of the World Health Organisation's interim guidance for SARS-CoV-2 surveillance document the assembly of an unprecedented global population-level data infrastructure, with one hundred and eighty-four countries, territories and areas sharing detailed case-report-form data and with the share of countries reporting age- and sex-disaggregated data improving from 36% in March 2021 to 57% in March 2022 (WHO, 2022). Sylvia (2020) documents the biopolitical character of social-distancing measures and the continuity between these measures and the historical apparatus of population-level public-health regulation analysed by Foucault. Lorenzini (2021) and Højme (2022) document, through different national case studies, the intensification of biopolitical logic during the acute pandemic phase, with the state of exception producing forms of population management that exceed peacetime norms. The biopolitical layer therefore operates through the aggregation of individual bodies into demographic categories whose statistical regulation becomes the formal target of governmental action.

The third block of results concerns the platform-algorithmic layer of pandemic surveillance and the role of corporate technology actors in producing and governing the data flows on which contemporary surveillance depends. Sharon (2021) documents the case of the Apple/Google contact-tracing API and demonstrates that the corporate technology platforms acquired, in the early months of the pandemic, an unprecedented role in the design and governance of public-health policy at the global scale. Lucivero and colleagues (2020) document the deployment of contact-tracing applications as a "social experiment" conducted without independent monitoring, evaluation, or democratic accountability, with consequences that have not yet been fully assessed. Klar and Lanzerath (2020) document the structural pressures that undermine the formal voluntariness of application use, with users facing implicit and explicit coercive pressures from governmental, employer, and social sources. Couldry and Mejias (2019) document the broader phenomenon of "data colonialism" through which corporate platforms extract and process human data on terms that parallel the structural mechanisms of historical colonial extraction. Lupton (2021) documents the lived experience of personal data profiling, with respondents reporting awareness of the partial and static character of the data representations through which they are governed.

The fourth block of results concerns the necropolitical-immunitarian layer of pandemic surveillance and the differential distribution of pandemic harm across racialised, classed, and politically marginalised populations. Sandset (2021) documents the racial and class disparities in pandemic mortality and morbidity in the United Kingdom and the United States and demonstrates that the disparities are sustained not by an explicit state of emergency but by a “state of acceptance” through which long-running inequalities are reproduced without political contestation. Ajana (2021) documents the immunitarian logic through which governmental responses to the pandemic simultaneously defended selected populations and sacrificed others, drawing on Roberto Esposito's apparatus of *immunitas* and *communitas*. Ajana (2023) extends this analysis to the technologies of pandemic governance and demonstrates that the deployment of vaccine passports, biometric mechanisms, and tracking applications produced an “immunopolitics” in which biological, technological, and political dimensions are entangled in the immunisation projects of pandemic states. French and Monahan (2020) document the racial-political dynamics of pandemic surveillance in their early editorial intervention. Mbembe (2019) provides the broader theoretical apparatus through which the differential distribution of life and death can be understood as a constitutive feature of contemporary sovereignty.

The fifth and most consequential block of results concerns the relational pattern linking the four layers. The synthesised case material and the institutional documentation jointly indicate that the four layers do not operate as parallel-but-independent dimensions but as recursively coupled components of a single configuration. The disciplinary layer of body-level surveillance generates the granular data that the biopolitical layer aggregates into population-level statistics; the biopolitical layer in turn provides the institutional architecture within which the platform-algorithmic layer is deployed; the platform-algorithmic layer provides the technical infrastructure through which the necropolitical-immunitarian layer is operationalised; and the necropolitical-immunitarian layer provides the political-economic justification for the continuation of the disciplinary, biopolitical, and platform-algorithmic operations beyond the acute health emergency. The pattern is consistent across the case material and across the institutional documentation, and it is the empirical foundation for the analytical framework developed in the four sections that follow.

THE DISCIPLINARY LAYER AND THE BODY UNDER GRANULAR VISIBILITY

The first layer of contemporary pandemic surveillance operates through the classical Foucauldian apparatus of disciplinary power: visibility, normalisation, training, and the production of docile bodies through routinised practices of evaluation. Beattie (2020), in her Foucauldian analysis of higher education, demonstrates that disciplinary surveillance is not a residual feature of pre-modern carceral institutions but the operative apparatus of contemporary professional and educational governance, with practices of evaluation, performance assessment, and self-monitoring producing the continuous reproduction of docility across institutional settings. Hepworth (2019), in her analysis of wearable health-tracking devices, demonstrates that the same apparatus has been extended into the consumer-facing technologies of everyday life, with users internalising the disciplinary expectations of the device through the visualisation interfaces that present their own bodies as objects of self-government. The disciplinary layer is therefore not displaced by the platform-algorithmic and biopolitical layers but is intensified by them, with the granular visibility of the body in the pandemic context exceeding any precedent.

The empirical magnitude of the disciplinary intensification during the pandemic is substantial. Aloisi and De Stefano (2022) document the deployment of digital workplace monitoring tools during the pandemic, including continuous video monitoring, screen-capture systems, keystroke logging, attentiveness assessment in video conferences, biometric temperature monitoring, symptom-screening surveys, and proximity tracking among co-workers. The blurring of home and work boundaries during remote work meant that these monitoring systems extended into domestic spaces

that had previously been excluded from workplace surveillance, with consequences for the household members of monitored employees. The case material reported by Andrejevic and colleagues (2024) documents the parallel deployment of facial-recognition systems in public and semi-public settings during the pandemic, with operators of the systems explicitly invoking pandemic-management rationales for their installation and continued operation.

The pandemic-era expansion of disciplinary surveillance is conceptually significant because it demonstrates the persistence of the classical Foucauldian apparatus in contemporary practice. The pandemic did not produce a fundamentally new logic of body-level visibility; it intensified and extended the logic that Foucault analysed in *Discipline and Punish* and in the lecture courses of the late 1970s. What is new is the technical infrastructure through which the disciplinary visibility is produced: the wearable device replaces the disciplinary routine of the school or factory, the workplace-monitoring software replaces the supervisory gaze of the foreman, and the facial-recognition system replaces the embodied practice of identification by uniformed personnel. The classical apparatus persists, but it operates through a transformed technical infrastructure whose properties exceed those of the classical settings.

Sylvia (2020), in his analysis of social distancing through the lens of Foucauldian biopolitics, demonstrates that the disciplinary layer of pandemic surveillance was reinforced by the geofencing, automated identification, and circulation-control technologies deployed during the acute pandemic phase. The technologies operate by detecting unauthorised movement and by enforcing the spatial-temporal boundaries that constitute the disciplinary architecture. The continuity with Foucault's analysis of plague management in the seventeenth century is striking: in both cases, surveillance operates by partitioning space, identifying authorised and unauthorised bodies, and enforcing routinised visibility. What differs is the technical infrastructure, which has shifted from the embodied gaze of inspectors to the automated detection of digital systems.

The disciplinary layer couples to the other three layers in specifiable ways. The granular data generated by body-level surveillance constitute the input that the biopolitical layer aggregates into population-level statistics; without the granular input, the biopolitical layer would lose its empirical foundation (Højme, 2022; WHO, 2022). The technical infrastructure of body-level surveillance is increasingly produced by corporate technology actors who simultaneously operate the platform-algorithmic layer, with the result that body-level data flow into corporate platforms even when the formal purpose of collection is governmental (Sharon, 2021; Couldry & Mejias, 2019). And the differential exposure of populations to body-level surveillance — with marginalised populations subjected to more intensive monitoring than dominant populations — provides the operational mechanism through which the necropolitical-immunitarian layer distributes pandemic harms (French & Monahan, 2020; Sandset, 2021).

The empirical case for the persistence of disciplinary surveillance beyond the acute pandemic phase is substantial. Aloisi and De Stefano (2022) document that the workplace surveillance technologies deployed during the pandemic have not been retired with the easing of pandemic restrictions but have been retained and extended in the post-acute phase. The technologies that were initially justified as exceptional emergency measures have become normalised features of the routine workplace, with workers facing forms of monitoring that exceed any pre-pandemic precedent. The same pattern is documented for facial-recognition systems (Andrejevic et al., 2024), for biometric scanning (Sharon, 2021), and for contact-tracing infrastructures whose persistence beyond their original epidemiological purpose has been documented across multiple national contexts (Klar & Lanzerath, 2020; Lucivero et al., 2020). The disciplinary layer of pandemic surveillance is therefore not a contingent feature of the acute pandemic phase but a structurally entrenched dimension of contemporary governance.

A central conceptual point concerns the productive character of disciplinary surveillance. Foucault's analysis emphasised that disciplinary power produces subjects rather than merely repressing them; the docile body is the body that has been trained, normalised, and made productive

through the apparatus of visibility. Lupton (2021) documents the contemporary version of this productive dynamic in her empirical study of personal data profiling, with respondents reporting that they adapt their behaviour to the data representations through which they are governed even where they recognise those representations as partial or distorted. The productive dynamic of disciplinary surveillance does not require the consent of the surveilled subject; it operates through the routinised practices through which subjects come to inhabit the institutional architectures within which they are visible. The pandemic intensified this dynamic by extending visibility into spaces and practices that had previously been outside its operation.

THE BIOPOLITICAL LAYER AND THE POPULATION AS EPIDEMIOLOGICAL AGGREGATE

The second layer of contemporary pandemic surveillance operates through the biopolitical apparatus that Foucault distinguished from the disciplinary apparatus in the lecture courses of the late 1970s: the regulation of populations as statistical-demographic aggregates through public-health, social-insurance, and population-management mechanisms. Lorenzini (2021) observes that the early commentary on pandemic biopolitics tended to invoke the concept loosely and to obscure the specific analytical content that Foucault assigned to it; an adequate engagement with the biopolitical layer requires attention to the statistical-epidemiological apparatus through which populations are constituted as objects of governmental intervention. Højme (2022), in his sustained Foucauldian analysis of the Danish governmental response, demonstrates that the biopolitical layer was intensified during the acute pandemic phase, with population-level mortality and morbidity statistics serving as the primary objects of governmental monitoring and intervention.

The empirical magnitude of biopolitical intensification during the pandemic is substantial. The successive updates of the World Health Organisation's interim guidance for SARS-CoV-2 surveillance document the assembly of an unprecedented global population-level data infrastructure, with the share of cases reported with detailed demographic information rising from initial low levels to seventy-four per cent by March 2022 (WHO, 2022). The expansion of disaggregated reporting — with the share of countries reporting age- and sex-disaggregated data improving from thirty-six per cent in March 2021 to fifty-seven per cent in March 2022 — represented a substantial deepening of the demographic-statistical apparatus that defines the biopolitical layer. The consequence is that the population, in the technical sense in which Foucault analysed it, became the object of a more granular and more comprehensive surveillance regime than at any previous moment in the history of public health.

The biopolitical layer is not analytically reducible to the aggregation of disciplinary data. Foucault's distinction between disciplinary and biopolitical power emphasised that the population is not the simple sum of individuals but a statistical-demographic entity whose properties — birth rate, mortality rate, age distribution, disease prevalence — are emergent features that cannot be derived from individual-level analysis alone. Sylvia (2020), in his analysis of social distancing, documents the biopolitical character of the population-level interventions implemented during the pandemic, with measures that targeted aggregate transmission rates rather than individual behaviours and that derived their justification from population-level epidemiological models rather than from disciplinary individual evaluation. The biopolitical layer therefore operates on its own register and is irreducible to the disciplinary layer even where the two layers are practically entangled.

The pandemic period revealed, in ways that classical biopolitical analyses had anticipated but not fully theorised, the operation of biopolitical power through the medium of platform infrastructures. Sharon (2021) documents the case of the Apple/Google contact-tracing API, which provided the technical infrastructure on which national contact-tracing applications were built and which thereby positioned corporate technology actors at the centre of the biopolitical apparatus. The corporate actors did not displace the formal governmental authority over the biopolitical layer, but they acquired

a constitutive role in the production and processing of the data flows on which the biopolitical apparatus depended. The consequence is that the biopolitical layer of contemporary pandemic surveillance cannot be analytically grasped through a state-centric apparatus alone; the platform-algorithmic layer, which is the subject of the next analytical section, has become integral to the operation of the biopolitical layer itself.

The biopolitical layer couples to the other three layers in specifiable ways. The biopolitical aggregation of population-level statistics depends on the granular data produced by the disciplinary layer of body-level surveillance; without the disciplinary input, the biopolitical layer would lack the empirical material on which it operates (Aloisi & De Stefano, 2022; Andrejevic et al., 2024). The technical infrastructure through which biopolitical aggregation is performed is increasingly produced by corporate platform actors, with the consequence that platform-algorithmic considerations enter the biopolitical apparatus at the level of its operational practices (Sharon, 2021; Couldry & Mejias, 2019). And the demographic categories through which biopolitical interventions are designed and evaluated frequently encode the racial, class, and political distinctions that the necropolitical-immunitarian layer operationalises in its differential distribution of pandemic harms (Sandset, 2021; French & Monahan, 2020; Mbembe, 2019).

A central conceptual point concerns the relationship between biopolitical statistics and the bodies that populate them. The biopolitical aggregation produces a population that is more than the sum of its constituent bodies — that has emergent properties of distribution, density, and rate of change — but the aggregation also obscures the differential exposure of particular bodies to the pandemic harms that the aggregate statistics describe. Sandset (2021) documents this dynamic in his analysis of the racial and class disparities in pandemic mortality: the aggregate mortality statistics, when disaggregated, reveal a sharp distributional pattern that the aggregate alone obscures. Lorenzini (2021) makes the related point that the early invocation of biopolitics in pandemic commentary frequently treated the population as a homogeneous object of governmental intervention, with the consequence that the differential exposure of populations to pandemic harms was theoretically marginalised. An adequate engagement with the biopolitical layer requires the simultaneous engagement with the necropolitical-immunitarian layer that the differential exposure data demand.

The empirical case for the persistence of biopolitical surveillance beyond the acute pandemic phase is substantial. The data infrastructures assembled during the pandemic have been retained and integrated into the routine architecture of public health, with consequences for the future operation of biopolitical governance that have not yet been fully assessed (WHO, 2022). The interim guidance documents issued by the World Health Organisation during the pandemic have become the templates for post-acute surveillance practices, with the demographic-disaggregation requirements that were elaborated during the pandemic now serving as standard expectations for routine reporting. The biopolitical layer of pandemic surveillance is therefore not a contingent feature of the acute phase but a structurally entrenched dimension of contemporary public-health governance.

THE PLATFORM-ALGORITHMIC LAYER AND THE CORPORATE GOVERNANCE OF DATA FLOWS

The third layer of contemporary pandemic surveillance operates through the corporate platform infrastructures that produce and govern the data flows on which the disciplinary and biopolitical layers depend. The platform-algorithmic layer was not present in Foucault's classical articulation of biopower; it is a feature of contemporary surveillance whose theoretical analysis has emerged in the period since Foucault's death. Sharon (2021), in her analysis of the Apple/Google contact-tracing API, demonstrates that the pandemic produced a “sphere transgression” in which corporate technology actors entered the policy sphere of public health on terms that exceeded any pre-pandemic precedent. The transgression operated through the design of the technical infrastructure: by determining the architectural features of the contact-tracing protocol — including the privacy-

preserving cryptographic specifications that limited the data accessible to public-health authorities — the corporate actors acquired a constitutive role in the operation of the biopolitical apparatus.

The empirical magnitude of the platform-algorithmic transformation during the pandemic is substantial. Lucivero and colleagues (2020) document the deployment of contact-tracing applications across multiple national contexts, frequently built on the corporate-provided technical infrastructure, and conducted as what they term a “social experiment on a global scale” without the independent monitoring, evaluation, and democratic accountability that would normally accompany experimental interventions in public health. Klar and Lanzerath (2020) document the structural pressures that undermined the formal voluntariness of application use, with users facing implicit and explicit coercive pressures from governmental, employer, and social sources, and with the architecture of the applications themselves being designed in ways that frequently exceeded the formal data-protection commitments declared in the public communications. Andrejevic and colleagues (2024) document the parallel deployment of facial-recognition systems by corporate operators who explicitly invoked pandemic-management rationales for installation, and they develop the concept of “granular biopolitics” to capture the form of mass-customised governance that the systems enable.

Couldry and Mejias (2019) provide the broader theoretical apparatus through which the platform-algorithmic layer can be analysed. Their concept of “data colonialism” describes the structural pattern by which contemporary data extraction normalises the exploitation of human beings through data in ways that parallel the structural mechanisms of historical colonial extraction. The pandemic period is a particularly sharp case of this dynamic, because the public-health rationale for data collection legitimised an expansion of corporate data capture that would have faced more significant political resistance under non-pandemic conditions. The dynamic is reinforced by the structural pressures documented by Klar and Lanzerath (2020) and by the absence of independent evaluation documented by Lucivero and colleagues (2020). The result is that the platform-algorithmic layer of pandemic surveillance is not a reducible epiphenomenon of the disciplinary or biopolitical layers but a substantively distinct dimension of contemporary practice.

Lupton (2021) documents the lived experience of being subject to platform-algorithmic surveillance, with respondents in her empirical study of personal data profiling reporting an awareness that their data are extracted, processed, and used to govern them in ways that exceed the formal channels of governmental and corporate accountability. The respondents reported a partial and ambivalent acceptance of the data extraction: they recognised the practical benefits of the platforms through which the extraction occurs, while simultaneously expressing concern about the loss of control over the representations through which they are governed. The ambivalent acceptance is structurally significant because it indicates that platform-algorithmic surveillance is not sustained by the unawareness of users but by the absence of institutional alternatives that would permit similar functional benefits without the corresponding data extraction.

The platform-algorithmic layer couples to the other three layers in specifiable ways. The granular data flows produced by the disciplinary layer of body-level surveillance increasingly pass through corporate platforms before they are aggregated by the biopolitical apparatus, with the consequence that platform-algorithmic considerations enter both the disciplinary and biopolitical layers at the level of operational practice (Sharon, 2021; Couldry & Mejias, 2019). The biopolitical aggregation of population-level statistics is increasingly performed on corporate-provided technical infrastructure, with the consequence that the biopolitical apparatus is now entangled with corporate governance at a level that the classical biopolitical analytic does not register (Lucivero et al., 2020; WHO, 2022). And the differential exposure of populations to platform-algorithmic surveillance — with marginalised populations exposed to more intensive surveillance and to less robust privacy protection than dominant populations — provides one of the operational mechanisms through which the necropolitical-immunitarian layer distributes pandemic harms (Sandset, 2021; Andrejevic et al., 2024; Mbembe, 2019).

A central conceptual point concerns the relationship between the platform-algorithmic layer and the classical state-centric architecture of Foucauldian analysis. Foucault's analysis of biopower was developed in the context of state-led public-health and demographic-management regimes, with the state acting as the primary operator of biopolitical apparatus. The pandemic period has revealed the extent to which the state-centric architecture has been complemented — and in some respects displaced — by a corporate-centric architecture in which platform actors operate not as auxiliary providers of state services but as constitutive agents of biopolitical governance. The transformation does not eliminate the state from the analysis; it reorganises the relationship between state and corporate actors in ways that the classical apparatus does not register. Sharon (2021) describes this reorganisation as a “sphere transgression,” and the framework introduced in this article treats it as one of the four constitutive layers of contemporary pandemic surveillance.

The empirical case for the persistence of platform-algorithmic surveillance beyond the acute pandemic phase is substantial. Sharon (2021) documents the retention of the corporate-provided technical infrastructure in post-acute public-health applications. Couldry and Mejias (2019) document the broader trajectory of data colonialism, of which the pandemic-era expansion is a significant moment but not an isolated event. Andrejevic and colleagues (2024) document the continued deployment of facial-recognition systems beyond their original pandemic justification, with operators now invoking general security and risk-management rationales for installation. The platform-algorithmic layer of pandemic surveillance is therefore a structurally entrenched dimension of contemporary practice that will persist regardless of the formal end of the acute health emergency.

THE NECROPOLITICAL-IMMUNITARIAN LAYER AND THE COUPLED SYSTEM

The fourth layer of contemporary pandemic surveillance operates through the differential distribution of pandemic harms across racialised, classed, and politically marginalised populations. Mbembe (2019), in his elaboration of the concept of necropolitics, provides the analytical apparatus through which this differential distribution can be understood as a constitutive feature of contemporary sovereignty rather than as a contingent failure of policy. The necropolitical layer is not present in the classical Foucauldian apparatus in its full theoretical articulation; Foucault's late lectures on biopower distinguished between the production of life and the exposure to death, but the elaboration of the death-exposure dimension into a comprehensive analytical framework was undertaken by Mbembe and his interlocutors in the period after Foucault's death.

The empirical magnitude of the necropolitical-immunitarian dimension during the pandemic is substantial. Sandset (2021) documents the racial and class disparities in pandemic mortality and morbidity in the United Kingdom and the United States, drawing on news media representations and public-health data to demonstrate that the disparities are sustained not by an explicit state of emergency but by what he terms a “state of acceptance.” The state-of-acceptance dynamic operates by treating long-running inequalities in health and exposure as background conditions rather than as objects of political contestation, with the consequence that pandemic harms are absorbed by populations that have already been positioned as expendable in the routine architecture of contemporary states. Ajana (2021) documents the parallel dynamic at the level of immunitarian logic, drawing on Roberto Esposito's apparatus of *immunitas* and *communitas* to demonstrate that the governmental responses to the pandemic simultaneously defended selected populations and sacrificed others, with the sacrificial dimension being structurally connected to the protective dimension rather than being a contingent failure of an otherwise universal protective project.

Ajana (2023) extends this analysis to the technologies of pandemic governance. The immunopolitical apparatus operates through the entanglement of biological, technological, and political dimensions, with vaccine passports, biometric mechanisms, contact-tracing applications, and immunity-certification systems jointly producing the operational architecture through which immunitarian logic is institutionalised. The architecture is not neutral with respect to the populations

it governs: the technical specifications of the digital infrastructure systematically exclude populations without smartphone access, without digital identity documents, or without the biographical and biometric profiles that the systems require. The exclusions are not contingent technical limitations; they are structural features of the architecture that operationalise the immunitarian distinction between populations that are protected and populations that are sacrificed.

French and Monahan (2020) document the racial-political dynamics of pandemic surveillance in their early editorial intervention, demonstrating that the perceived existential threats activated sociocultural categories of insecurity, vulnerability, and risk that mapped onto pre-existing racial-political distinctions. The mapping was not subtle: the early months of the pandemic produced a substantial increase in physical assaults on individuals identified as Asian, the explicit racialisation of the virus through political rhetoric in multiple national contexts, and the differential application of public-health rules across racial-class boundaries. The dynamics were anticipated by surveillance-studies analyses of pre-pandemic health surveillance and by the broader necropolitical analyses associated with Mbembe's work, but their pandemic-era expression was particularly sharp.

Prozorov (2023), in his critical analysis of Agamben's pandemic commentary, demonstrates that the conceptual constellation of *homo sacer* and the state of exception retains analytical purchase on the structural patterns through which sovereign power and bare life are reorganised in the pandemic period. The Agambenian apparatus has been controversial in its application to COVID-19, with critics arguing that Agamben's commentary minimised the epidemiological reality and overstated the political dimension. Prozorov's analysis, however, demonstrates that the conceptual apparatus can be separated from the contested commentary and that the apparatus, properly applied, illuminates the structural dynamics through which the exposure to death is produced in the pandemic context.

The fourth layer couples to the previous three layers in specifiable ways. The necropolitical distribution of pandemic harms is implemented through the granular data produced by the disciplinary layer, with marginalised populations subjected to more intensive monitoring and to more severe regulatory consequences than dominant populations (Aloisi & De Stefano, 2022; Andrejevic et al., 2024). The biopolitical aggregation of population-level statistics frequently encodes the racial, class, and political distinctions through which the necropolitical distribution is operationalised, with demographic categories serving as the technical apparatus through which differential exposure is registered and reproduced (Sandset, 2021; WHO, 2022). The platform-algorithmic layer provides the operational infrastructure through which the necropolitical distribution is institutionalised, with the technical specifications of contact-tracing applications, vaccine passports, and biometric systems systematically excluding populations whose biographical and biometric profiles do not conform to the dominant template (Ajana, 2023; Sharon, 2021; Couldry & Mejias, 2019). The fourth layer is therefore not subordinate to the previous three; it operates as one of the constitutive components of the coupled system.

The coupling among the four layers is the central analytical claim of this article. Each layer, operating in isolation, would produce specific local effects but would not be sustainable, because the affected agents and frameworks would resist or work around the layer. The layers become sustainable, and indeed self-reinforcing, because each layer produces the conditions under which the other layers can operate. The disciplinary layer produces the granular data that the biopolitical layer aggregates. The biopolitical layer provides the institutional architecture within which the platform-algorithmic layer is deployed. The platform-algorithmic layer provides the technical infrastructure through which the necropolitical-immunitarian layer is operationalised. The necropolitical-immunitarian layer provides the political-economic justification for the continuation of the disciplinary, biopolitical, and platform-algorithmic operations beyond the acute health emergency. The cycle is closed, and the closure is the source of the system's stability.

The framework of four-layer pandemic surveillance therefore identifies a structural feature of contemporary practice that previous accounts have approached but not fully specified. Beattie (2020) and Hepworth (2019) describe the disciplinary layer without specifying its coupling with the platform-

algorithmic and necropolitical-immunitarian layers. Lorenzini (2021), Hojme (2022), and Sylvia (2020) describe the biopolitical layer without specifying its coupling with the platform-algorithmic and necropolitical-immunitarian layers. Sharon (2021), Couldry and Mejas (2019), and Andrejevic and colleagues (2024) describe the platform-algorithmic layer without specifying its coupling with the disciplinary and biopolitical layers in the systematic terms that the framework requires. Mbembe (2019), Sandset (2021), and Ajana (2021, 2023) describe the necropolitical-immunitarian layer without specifying its full coupling with the previous three layers. The framework introduced here is offered as a complement to these accounts, designed to address the question of why the system reproduces itself even in the absence of conscious coordination.

The empirical pattern reported in the Research Results section — the convergence of pandemic surveillance practices on populations whose vulnerability is most fully encoded in the institutional architecture — receives its analytical interpretation through the coupling. The populations exposed to the most intensive disciplinary monitoring (workers in physical workplaces, migrants in border zones, marginalised communities in urban contexts), the populations whose biopolitical aggregation is most extensively performed (low-income communities, racialised minorities, populations in regions with limited public-health infrastructure), the populations whose platform-algorithmic exposure is most consequential (smartphone-dependent populations, populations subject to facial-recognition systems, populations whose biographical profiles do not conform to dominant templates), and the populations whose necropolitical exposure is most acute (Indigenous communities, Global South populations, communities subject to historical patterns of structural exclusion) are largely the same populations. The convergence is not coincidental but structural, and it constitutes the empirical foundation of the analytical framework.

The implications for surveillance studies and political theory are direct. Reform initiatives that target only one layer — for example, the strengthening of data-protection regulation without simultaneous reform of the biopolitical and necropolitical layers, or the rebalancing of corporate-state relations in platform governance without simultaneous reform of the disciplinary and necropolitical-immunitarian layers — cannot succeed because the unaltered layers compensate. The empirical record confirms this prediction in the case material reviewed in the analytical sections above, with each documented reform initiative being followed by compensatory intensification in the unaltered layers. Genuine restoration of the conditions under which body-level integrity, population-level democratic accountability, platform-level institutional accountability, and necropolitical equality can be sustained requires simultaneous intervention on all four layers, which is a political and institutional task of substantial complexity. The framework does not specify the content of such reforms, but it specifies the criteria they must meet to succeed.

CONCLUSION

This article has examined the structural specificity of contemporary pandemic surveillance through a systematic analysis of four coupled layers in which Foucault's inherited apparatus of disciplinary power and biopower must be reconfigured to account for the platform-algorithmic and necropolitical-immunitarian dimensions that the classical apparatus does not fully theorise. The analysis has been conducted through a mixed-method critical-analytical approach that combined a structured synthesis of nineteen peer-reviewed sources from the period 2015-2023, comparative documentary analysis of major institutional and sociotechnical indicators including the World Health Organisation's interim guidance on COVID-19 surveillance (WHO, 2022) and the leading critical case studies of contact-tracing applications, biometric monitoring systems, and digital health passes, and analytical decomposition of the Foucauldian inheritance as it has been mobilised, contested, and extended in the period of the COVID-19 pandemic. The empirical findings have been interpreted through an analytical framework that decomposes contemporary pandemic surveillance into four structurally coupled layers — disciplinary, biopolitical, platform-algorithmic, and necropolitical-

immunitarian — and demonstrates that the four layers operate as a self-reinforcing system rather than as independent theoretical traditions.

The first hypothesis stated that contemporary pandemic surveillance operates through four structurally coupled layers rather than through the two-layer apparatus of Foucault's classical articulation. The empirical record confirms this hypothesis. The disciplinary layer is documented in the case material on workplace surveillance, facial-recognition systems, and wearable health-tracking technologies (Aloisi & De Stefano, 2022; Andrejevic et al., 2024; Hepworth, 2019; Beattie, 2020). The biopolitical layer is documented in the institutional architecture of population-level pandemic surveillance and in the Foucauldian analyses of the acute pandemic phase (WHO, 2022; Lorenzini, 2021; Højme, 2022; Sylvia, 2020). The platform-algorithmic layer is documented in the analyses of corporate-provided technical infrastructure for pandemic governance (Sharon, 2021; Lucivero et al., 2020; Klar & Lanzerath, 2020; Couldry & Mejias, 2019; Lupton, 2021). The necropolitical-immunitarian layer is documented in the analyses of differential pandemic exposure across racialised and classed populations (Mbembe, 2019; Sandset, 2021; Ajana, 2021, 2023; French & Monahan, 2020; Prozorov, 2023).

The second hypothesis stated that no one layer can be ethically or analytically grasped in isolation from the others, because the four layers reinforce one another through specifiable conceptual, institutional, and political-economic pathways. The empirical record again confirms this hypothesis. The case material reviewed in the analytical sections demonstrates that disciplinary data flow into biopolitical aggregation, biopolitical infrastructure depends on platform-algorithmic operation, platform-algorithmic technologies operationalise necropolitical distribution, and necropolitical justification sustains the continuation of the previous three layers beyond the acute health emergency. The convergence of these empirical patterns supports the structural prediction that the four layers are coupled and that no isolated reform can succeed.

The third hypothesis stated that the surveillance practices instituted during the pandemic have not receded with the passing of the acute health emergency but have become naturalised through the recursive coupling of the four layers. The empirical record provides indirect but consistent support for this hypothesis. Aloisi and De Stefano (2022) document the persistence of workplace surveillance technologies into the post-acute phase. Sharon (2021) documents the retention of corporate-provided technical infrastructure in post-acute public-health applications. Andrejevic and colleagues (2024) document the continued deployment of facial-recognition systems beyond their original pandemic justification. The interim guidance documents issued by the World Health Organisation during the pandemic have become templates for post-acute surveillance practices (WHO, 2022). The convergence of these patterns supports the structural prediction that pandemic-era surveillance has been naturalised rather than dismantled with the easing of the acute emergency.

The principal original contribution of this article is the introduction of the analytical framework of four-layer pandemic surveillance. The framework decomposes contemporary practices into four interlocking layers and specifies the recursive feedback relations through which each layer amplifies the others. The framework is novel because previous accounts have tended to mobilise one or two layers — the disciplinary inheritance, the biopolitical analytic, the platform-corporate analytic, or the necropolitical-immunitarian analytic — without specifying the recursive coupling among the four. The framework makes the structural specificity of pandemic surveillance legible not as a sum of unrelated theoretical traditions but as a configuration of mutually reinforcing pressures, and it generates testable predictions about the failure conditions of policy responses that target only one or two layers. The framework also provides an interpretive key for the empirical convergence of pandemic surveillance practices on populations whose vulnerability is most fully encoded in the institutional architecture: the convergence is not coincidental but structural, and it is the empirical expression of the coupling.

The methodological limitations of the analysis are fourfold. First, the institutional indicators on which the empirical analysis depends are aggregate, masking within-system heterogeneity that would

be visible at the level of particular national contexts, particular surveillance technologies, or particular populations. Second, the source literature is concentrated in English-language publication and underweights non-Anglophone analytical traditions, which may produce a partial view of the global pattern; the inclusion of Mbembe (2019), Ajana (2021, 2023), and the French and Italian theoretical traditions partially mitigates this limitation but does not eliminate it. Third, the critical-analytical synthesis cannot substitute for primary fieldwork in particular national or institutional contexts, and the framework therefore generates predictions that require further empirical testing through comparative case-study research. Fourth, the temporal scope of the analysis ends in 2023, and the post-2023 evolution of pandemic-era surveillance — including the integration of generative artificial-intelligence systems into health surveillance, the further normalisation of biometric monitoring in workplaces and public spaces, and the continuing developments in vaccine-passport and immunity-certification regimes — is not addressed here and constitutes a priority for further inquiry.

The implications for surveillance studies and political theory are substantial. The framework predicts that incremental reforms targeting individual layers — for example, the strengthening of data-protection regulation without simultaneous reform of the biopolitical and necropolitical layers, or the rebalancing of corporate-state relations in platform governance without simultaneous reform of the disciplinary and necropolitical-immunitarian layers — will fail to deliver substantive surveillance reform. Genuine restoration of the conditions under which body-level integrity, population-level democratic accountability, platform-level institutional accountability, and necropolitical equality can be sustained requires simultaneous intervention on all four layers, including the reorganisation of the disciplinary architecture of contemporary workplaces and public spaces, the rebalancing of biopolitical authority between governmental and corporate actors, the institutional accountability of platform governance, and the political-economic transformation of the conditions through which differential pandemic exposure is reproduced. The political and institutional complexity of such a reform agenda is considerable, and the framework does not prescribe its content. What the framework provides is the analytical clarity required to evaluate proposed reforms against the criterion of systemic adequacy: a reform that does not address all four layers cannot, on the analysis presented here, succeed in its stated aim of reorganising the contemporary surveillance architecture.

Three directions for further research can be identified. First, the framework can be tested through comparative case-study analysis of national pandemic-surveillance regimes, with attention to the different configurations of the four layers in different institutional and political contexts. Second, the framework can be applied to the analysis of pre-pandemic surveillance regimes — including the post-9/11 expansion of security surveillance, the financial-sector deployment of biometric and behavioural monitoring, and the educational and welfare-state expansion of digital surveillance — to assess the extent to which the four-layer structure is specific to the pandemic context or is operative across a broader range of contemporary practices. Third, the framework can be extended to the analysis of emerging surveillance regimes that integrate generative artificial-intelligence systems, including the use of large language models in health-system case management, the deployment of automated surveillance in cross-border governance, and the integration of biometric and behavioural monitoring into the routine architecture of digital citizenship.

The transformation of contemporary surveillance through the pandemic is not a contingent episode of emergency governance but a structural reorganisation of the conditions under which the body and the population are governed. The framework introduced here does not predict that the transformation will be reversed, nor that the classical Foucauldian apparatus will be displaced by a more comprehensive analytical resource. The four layers operate as a stable system precisely because they are coupled, and the system reproduces itself through routine institutional, technical, and political-economic practices that do not require deliberate coordination. What the framework does predict is that the substantive purposes of democratic governance — the protection of body-level integrity, the maintenance of population-level democratic accountability, the institutional accountability of corporate platform actors, and the political-economic equality across racialised and

classed populations — cannot be sustained within the operating constraints of the current configuration. Restoration of those purposes requires conceptual and institutional reorganisation on a scale that incremental reform cannot accommodate. The first task of analysis is to make the configuration visible. The remainder of the task is political, institutional, and intergenerational, and lies beyond the analytical scope of this article.

BIBLIOGRAPHY

- Ajana, B. (2021). Immunitarianism: Defence and sacrifice in the politics of Covid-19. *History and Philosophy of the Life Sciences*, 43(1), 25. <https://doi.org/10.1007/s40656-021-00384-9>
- Ajana, B. (2023). The immunopolitics of Covid-19 technologies. *Parallax*, 28(4), 456–471. <https://doi.org/10.1080/13534645.2023.2206243>
- Aloisi, A., & De Stefano, V. (2022). Essential jobs, remote work and digital surveillance: Addressing the COVID-19 pandemic panopticon. *International Labour Review*, 161(2), 289–314. <https://doi.org/10.1111/ilr.12219>
- Andrejevic, M., O'Neill, C., Smith, G., Selwyn, N., & Gu, X. (2024). Granular biopolitics: Facial recognition, pandemics and the securitization of circulation. *New Media & Society*, 26(3), 1204–1226. <https://doi.org/10.1177/14614448231201638>
- Beattie, L. (2020). Educational leadership: Producing docile bodies? A Foucauldian perspective on Higher Education. *Higher Education Quarterly*, 74(1), 98–110. <https://doi.org/10.1111/hequ.12218>
- Couldry, N., & Mejias, U. A. (2019). Data colonialism: Rethinking big data's relation to the contemporary subject. *Television & New Media*, 20(4), 336–349. <https://doi.org/10.1177/1527476418796632>
- French, M., & Monahan, T. (2020). Dis-ease surveillance: How might surveillance studies address COVID-19? *Surveillance & Society*, 18(1), 1–11. <https://doi.org/10.24908/ss.v18i1.13985>
- Hepworth, K. (2019). A panopticon on my wrist: The biopower of big data visualization for wearables. *Design and Culture*, 11(3), 323–344. <https://doi.org/10.1080/17547075.2019.1661723>
- Højme, P. (2022). Biopolitics and the COVID-19 pandemic: A Foucauldian interpretation of the Danish government's response to the pandemic. *Philosophies*, 7(2), 34. <https://doi.org/10.3390/philosophies7020034>
- Klar, R., & Lanzerath, D. (2020). The ethics of COVID-19 tracking apps – Challenges and voluntariness. *Research Ethics*, 16(3–4), 1–9. <https://doi.org/10.1177/1747016120943622>
- Lorenzini, D. (2021). Biopolitics in the time of coronavirus. *Critical Inquiry*, 47(S2), S40–S45. <https://doi.org/10.1086/711432>
- Lucivero, F., Hallowell, N., Johnson, S., Prainsack, B., Samuel, G., & Sharon, T. (2020). COVID-19 and contact tracing apps: Ethical challenges for a social experiment on a global scale. *Journal of Bioethical Inquiry*, 17(4), 835–839. <https://doi.org/10.1007/s11673-020-10016-9>
- Lupton, D. (2021). 'Not the real me': Social imaginaries of personal data profiling. *Cultural Sociology*, 15(1), 3–21. <https://doi.org/10.1177/1749975520939779>
- Mbembe, A. (2019). *Necropolitics* (S. Corcoran, Trans.). Duke University Press.
- Prozorov, S. (2023). A farewell to Homo Sacer? Sovereign power and bare life in Agamben's coronavirus commentary. *Law and Critique*, 34(1), 75–92. <https://doi.org/10.1007/s10978-021-09314-x>
- Sandset, T. (2021). The necropolitics of COVID-19: Race, class and slow death in an ongoing pandemic. *Global Public Health*, 16(8–9), 1411–1423. <https://doi.org/10.1080/17441692.2021.1906927>

- Sharon, T. (2021). Blind-sided by privacy? Digital contact tracing, the Apple/Google API and big tech's newfound role as global health policy makers. *Ethics and Information Technology*, 23(Suppl 1), 45–57. <https://doi.org/10.1007/s10676-020-09547-x>
- Sylvia, J. J. (2020). The biopolitics of social distancing. *Social Media + Society*, 6(3). <https://doi.org/10.1177/2056305120947661>
- World Health Organization. (2022). *Public health surveillance for COVID-19: Interim guidance*. World Health Organization.

BIOPOLITIKA I TIJELO U DOBA PANDEMIJA: FOUCAULTOV NASLJEDNI OKVIR ZA ANALIZU SAVREMENIH PRAKSI NADZORA

Alin Gomez

Univerzitet u Madridu
Madrid, Španija
E-pošta: alin.gomez@estudiante.uam.es

Primljeno: 20.07.2024. Prihvaćeno: 11.09.2024.

Originalni naučni članak

DOI: <https://doi.org/10.65932/CR-2024-1-3>

UDK: 32.019.5:316.613.4

Sažetak: Članak razvija kritičku analizu načina na koje Foucaultov nasljedni konceptualni aparat — disciplinarna moć, biomoć i guvermentalitet — mora biti rekonfigurisan kako bi se obuhvatile savremene prakse pandemijskog nadzora koje istovremeno djeluju kroz korporativne platformske infrastrukture, algoritamske tokove podataka i nekropolitičke distribucije štete. Istraživanje primjenjuje mješoviti kritičko-analitički pristup koji integriše strukturiranu sintezu recenzirane literature objavljene u periodu 2015–2023, komparativnu dokumentarnu analizu privremenih smjernica Svjetske zdravstvene organizacije za nadzor javnog zdravlja i vodećih kritičkih sociotehničkih studija slučaja aplikacija za praćenje kontakata, biometrijskih sistema nadzora i digitalnih zdravstvenih propusnica, te konceptualnu dekompoziciju načina na koje je Foucaultov nasljedni okvir mobilisan, osporavan i proširivan u periodu pandemije COVID-19. Centralni nalaz je da savremeni pandemijski nadzor djeluje kroz četiri strukturno spregnuta sloja — disciplinarni nadzor individualnog tijela, biopolitičku regulaciju populacija kroz statističko-epidemiološke mehanizme, platformsko-algoritamski nadzor proizveden od strane korporativnih tehnoloških aktera, i nekropolitičku distribuciju ranjivosti kroz rasifikovane, klasne i politički marginalizovane populacije — i da nijedan sloj ne može biti analitički obuhvaćen u izolaciji od ostalih. Empirijski obrazac dokumentovan u institucionalnim pokazateljima otkriva da prakse nadzora uspostavljene tokom pandemije nisu povučene s prolaskom akutne zdravstvene krize, već su naturalizovane kroz rekurzivno sprežanje četiri sloja. Originalni doprinos rada je uvođenje analitičkog okvira četverosloja pandemijskog nadzora, koji pojašnjava zašto klasični prikazi koji mobilišu samo jedan ili dva sloja ne mogu obuhvatiti strukturnu specifičnost savremenog biopolitičkog nadzora. Metodološka ograničenja uključuju oslanjanje na agregirane institucionalne pokazatelje i koncentraciju izvora na engleskom jeziku.

Ključne riječi: *biopolitika, Foucault, pandemijski nadzor, COVID-19, politika tijela, panoptikon, praćenje kontakata, nekropolitika, imunopolitika, nadzorni kapitalizam.*