



The University of  
Tehran Press

Online ISSN: 2588-7092

Journal Homepage: <https://jor.ut.ac.ir/>



## The Digital City and the Fragmented Self in Snow Crash: Urban Form, Networked Subjectivity, and Metaverse Satire

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### Article Info

**Article type:**  
Research Article

**Article history:**

Received : 1 December 2025

Received in revised form: 20  
February 2026

Accepted: 24 February 2026

Available online: 22 June  
2026

**Keywords:**

*Snow Crash; digital city;  
platform urbanism;  
Metaverse; protocol  
governance; networked  
subjectivity; satire;  
fragmentation*



### ABSTRACT

This essay contends that Neal Stephenson's *Snow Crash* is best read not as a parodic dystopia of "virtual reality," but as a theory of digital urbanism, where space is administered by protocols and the self is manufactured as an interface. The "digital city" is treated here as an urban form, not as a decorative metaphor for online life. What matters, accordingly, is governance: how movement is routed, how passage is credentialed, how presence is made legible. On this account, the novel's franchised sovereignties, burbclave boundaries, logistical corridors, and regulated thresholds, visas, barcodes, access gates, do not merely furnish atmosphere. They reorganize mobility into a regime of permissions. Fragmentation, then, is not a free-floating postmodern condition or a mood one happens to inhabit. It is built. Identities become modular, role-bound, and readable only through the systems that sort, index, and route them. The Metaverse's Street emerges as a second, continuous skin of the same city: it translates privatized property relations into frontage, visibility, and bandwidth, while intensifying surveillance and status into spatialized metrics. The essay further argues that the book's comedic exaggeration is not an evasion of seriousness but a way of making these governing mechanics newly visible. Satire becomes diagnostic: it renders infrastructural power legible without allowing realist familiarity to normalize it. The paper concludes that the novel's analytic value lies less in predictive accuracy than in its structural continuity with contemporary platform governance. *Snow Crash* illuminates a convergence, urban space, information control, subject formation, in environments where access, recognition, and agency are negotiated ceaselessly through code-like procedures.

**Cite this article** W. Kareem Abbas Al. Hafadhi and A. Salami "The Digital City and the Fragmented Self in *Snow Crash*: Urban Form, Networked Subjectivity, and Metaverse Satire ". *Research in Contemporary World Literature*, 31(2), 205-225 <https://doi.org/10.22059/jor.2026.409217.2800>

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**Publisher:** The University of Tehran Press.



<https://doi.org/10.22059/jor.2026.409217.2800>

### Introduction: why the “digital city” is the novel’s main engine

The text of *Snow Crash* has often been read as a prescient satire of virtual reality culture, but its most consequential intervention is urban-structural. The book proposes a model of governance, economy, and identity as disembodied systems in which rules work like software, granting rights and recognitions and determining the flow of movement via administered pathways. The novel begins by presenting a social world regulated not by nation-states and the corporation-as-an-ideal-type, but by the routine motion of bodies through privatized zones of access. The status of the Deliverator is thus understood not as determined by his interior psychology but by his position in a logistics chain: “The Deliverator belongs to an elite order, a hallowed subcategory” (Stephenson 2003, 1). This is the governing premise of the narrative; persona is presented as a function identifiable by place, privilege, and status within the administered city-state. The logic of the plot plays out in the systematic sorting and authorization of movement, and the novel thus aligns itself with cyberpunk’s analysis of late capitalist decentralization, private governance, and the regulation of movement and access by securitized, commercialized infrastructures (Swanstrom 2010, 54).

In the following, “digital city” does not refer to the online world but to urban environments regulated by procedural protocols of all kinds (legal, commercial, computational) and in which property, policing, circulation, and persona are inextricably mediated by procedure. Stephenson’s franchised urbanism provides a vivid, literally realized model of that tendency by treating a burbclave: “Now a Burbclave, that’s the place to live. A city-state with its own constitution, a border, laws, cops, everything” (Stephenson 2003, 7) as both territory and market product. Here, territorial border and procedural authority are intertwined from the beginning, and their linkages are only further tightened as identity is presented as an entry in a foreign database. The Mafia’s enrollment of the Deliverator is an example of administrative assimilation: they roll him in ink and “digitized it into their computer” (Stephenson 2003, 7). Indeed, this is governance as information extraction, access-privileging, and record-creation that works like code, a full generation before the Metaverse was launched.

Stephenson goes on to present the explicit simulation of the franchised city-state as an additional urban space: the Metaverse. That Hiro finds it preferable cannot be attributed to escapism but to an infrastructural judgment: “this imaginary place is known as the Metaverse” (Stephenson 2003, 25) and seeing it as winning because frictions could be minimized and affordances commercialized. It is in the context of William J. Mitchell’s explanation of networked public space that Stephenson’s “imaginary place” reveals its character as something urban: the worldwide computer network radically redefines our notions of gathering place,

community, and urban life (Mitchell 1996, 8). Stephenson stages that redefinition in terms of frontage, zoning, and access control.

The defining element of the Metaverse is not an ambling “web” but a precisely recognizable boulevard shape: “Hiro is approaching the Street. It is the Broadway, the Champs Elysees of the Metaverse... millions of people are walking up and down it” (Stephenson 2003, 25). Here the central argument of the paper can begin to clarify itself. Both franchised sprawl and the Metaverse street function according to a logic of segmentation that transforms personhood into mappable traits, roles, access privileges, certifications, and purchasable interfaces. Sherry Turkle’s differentiation of civic publicness from commercially managed space begins to articulate what is at stake in this translation: Main Street is a public place. On Main Street you are a citizen; in the shopping mall, you are customer as citizen. In the mall, you are in a relatively controlled space (Turkle 1995, 235). The Street of Stephenson’s narrative performs this same mall-like publicness: a seemingly civic artery operating through transactional and procedural controls.

This is not just an urban metaphor; this is urban governance made explicit: “The dimensions of the Street are fixed by a protocol” (Stephenson 2003, 25). A protocol is not just a representation of the city; it constitutes it, in that it determines what might be built, how the world is seen, where attention is to be allocated, and how much it costs. Mitchell’s remark that designers of the electronic public realm must face questions about who gets in and who gets excluded, and what can and cannot be done there (Mitchell 1996, 149) names the political struggle that *Snow Crash* literalizes in physical infrastructure: contests between permissions and competing rule-sets, and regimes of access that turn identity into a manageable interface.

The infrastructure that renders a digitally networked world governable, moreover, routinizes surveillance as an ambient condition of being: “Gargoyles are no fun... doing background checks on you, paying the government money so they can run your retina patterns through their virtual files” (Stephenson 2003, 125). Surveillance operates less as a specific intervention and more as a service delivered along with one’s personhood; one is authenticated as a consumer subject while one circulates. Simultaneously, access and the avatar economy in the Metaverse represent points of entry into visibility that are strictly mediated by ownership: those lacking private hardware “materialize in a Port” where they must rent bodies for display (Stephenson 2003, 37). Whether in reality or the Metaverse, the digital city allocates not just space but representational capacity, the capacity to appear, the nature of one’s interface, the ease with which one is authorized.

**Critical context and gap: from cyberpunk space to urban form and subject formation**

A strand of “Metaverse anniversary” analysis takes inspiration from *Snow Crash* as a creation myth of, in effect, parody-origins. Emphasizing that the Metaverse is not technology’s destiny but a device of satire, Smethurst reads the book as directly targeting the fragmentation of the populace and the production of the atomized individual not as ambient atmosphere but as a manufactured output of techno-capitalist administration (Smethurst, Barbereau, and Nilsson 2023). Methodologically, this helps to clarify the satiric voice as diagnostic. Time and again, Stephenson returns to the infrastructural *how* of fragmentation; what partitions the populace are not modes of being but built spaces, architected environments designed to produce subjects isolated by routines of access, routing, and enclosure. This is consistent with those analyses that read the novel’s virtual and physical spaces as architectonics and interfaces, in which protocols, coded paths, and GUIs are not merely transparent but the very media of social and political order’s administration and legibility (Kelly 2018, 69–75). Similarly, scholarship on cyberpunk urbanism takes the novel’s privatized spaces as its critical object, positing that what the novel represents is not technological utopianism but a late-capitalist politics of verification and circulation in which networks of access themselves form the medium of social administration (Abbott 2007, 122–124).

This satire of private sovereignty culminates in the franchulate logic by which civic space becomes a matter of modular jurisdiction: “Mr. Lee’s Greater Hong Kong is a private, wholly extraterritorial sovereign” (Stephenson 2003, 108). The authority of the line is not an assertion of the exotic but of the norm; the appearance of corporately owned cityhood as a choice of consumer jurisdiction anticipates the novel’s other instances of self-styled rule by nothing so much as self-declaration, or a kind of nakedly cynical political theology: “These days you can throw a fence around your neighborhood and make it a private fiefdom” (Stephenson 2003, 153). Isolation itself becomes the constitution; privatization, the signature urban genre.

Even in minor signage the critique is made. “Towne’s” billboard promising “a nice detached home,” “a safe family,” and “a nice family” (Stephenson 2003, 155) is absurd because of its familiarity: belonging (the desire the advertisement seeks to fulfill) is repackaged as detachment; safety is translated into isolation. Satire, in this context, becomes not decoration but an apparatus of critique. It works, as we have seen, by rendering visible a social order comprised of fences, zones, scanners, franchised jurisdictions, and all those other things that manage access and rewrite routines into modes of managing individuals.

Swanstrom’s analysis provides a vital link between the networks of systems and the production of the self. As Smethurst sums, Swanstrom reads the novel as detailing a subject torn between encapsulation and penetration (Smethurst, Barbereau, and Nilsson 2023), a “self”

that is decentralized, permeable, and continually changing instead of fixed and whole through the bounded interiority of the individual. The further refinement that must be made to this is to suggest that the “circulation” described by Swanstrom is not just a cyberspatial phenomenon; it is the logic of the corridor built into the design of the city, where the road, border, platform, layer, and micro-jurisdiction provide access to the subject and guarantee it an address and an interruptible locus.

The line in *Snow Crash* that “the Street does not really exist. It’s just a computer-graphics protocol written down on a piece of paper somewhere” (Stephenson 2003, 33) literalizes the infrastructural thesis. The self of *Snow Crash* learns to inhabit protocol as environment. The prestige and the visibility afforded by the infrastructure are infrastructural, not metaphysical: “Put in a sign or a building on the Street and the hundred million richest, hippest, best-connected people on earth will see it every day” (Stephenson 2003, 34). An address in the corridor of attention provides prestige and visibility and an identity linked to the flow of sight, money, and connection. However, the novel does not promote this idea of circulation as an escape; Hiro’s segmented living space indicates that this distributed being is a daily compromise, not a victory: “Hiro has a nice big house in the Metaverse. But he has to share a 20-by-30 in Reality” (Stephenson 2003, 34). The networked self is expansive and constricted at the same time; spaciousness in one register is simultaneously a constriction in another.

The gargoyle takes the logic a step further into sociality. The gargoyles “wear their computers on their bodies, broken up into separate modules” (Stephenson 2003, 132) and “the payoff for this self-imposed ostracism is that you can be in the Metaverse all the time” (Stephenson 2003, 132). In this instance, circulation offers a trade-off in which constant access is bought at the price of engineered alienation. A connection to systems takes a subject and positions it as a node.

This paper fills the asymmetry in the allocation of scholarly attention. Cyberpunk criticism places “virtuality” center stage, while urban theory underreads the genre’s mechanisms of operation, interpreting fictional infrastructures as metaphors rather than as operative devices. The argument of this paper is that the Metaverse and the franchised metropolis should be viewed as co-constitutive city-forms, or as two versions of the same governance question concerning mobility, access, and identity through spatial mechanisms. Following Natalie Collie, who sees science fiction city narratives as laboratories for urban thinking, we interpret fictional infrastructures as devices that model and critique real-world governing spatial logics; imagined infrastructures stage intersections between urban form, technology, and power, and configure movement and inclusion (Collie 2011, 424–425). Urban theory, in fact, offers an already theorized frame for this conjunction. Castells sees “the space of flows” as “the material

organization of time-sharing social practices that work through flows” connecting “physically disjointed positions” via programmed exchange (Castells 2010, 471). Similarly, Mitchell argues that buildings will become computer interfaces and computer interfaces will become buildings in digitally mediated space (Mitchell 1996, 113). *Snow Crash* stages the implications of these arguments at the level of narratology: the fragmentation into micro-sovereignities occurs at the level of the body; policing agents must prepare for discontinuities in jurisdiction, which they see as an ordinary fact of life. The MetaCops “have to tote this kind of gear because when each franchulate is so small, criminals can run off and hop across a border” and gain “political asylum” in a “mere three-second motorcycle ride” (Stephenson 2003, 47). It is programmed space that makes possible the networked citizen who learns the corridor rules of entry, inclusion, and mobility across asphalt and avatar space.

### **Framework and method: spatial narratology and protocol urbanism**

In this study we try to employ a minimal concept-toolset that will keep interpretation tethered to the actual, material operations of space on which the novel is centered. First is the concept of urban production and segmentation, the constitutive act of creating space through designed lots, planned pathways, and the boundary-work of jurisdiction rather than shared civic order. Stephenson frames the space of the city on several occasions as something constructed and reconstructed by corporate agents, the designs of which are simultaneously infrastructure and policy. Y.T.’s transportation dilemma is articulated in terms of flow and erasure: “Not enough roads for the number of people. Fairlanes, Inc. is laying new ones all the time. Have to bulldoze lots of neighborhoods to do it” (Stephenson 2003, 6). The novel offers itself here methodologically as well as thematically: the city as product.

Second is network society and the space of flows, the privileging of circulation orders and management of access as the determinant of social form. This concept is not solely related to the digital; instead, the flows that constitute the city through roads, borders, and platforms become a language of power. The novel renders flow visible on the street level as a demand on infrastructure rather than as neutral functionality when Y.T. describes being blocked from accessing a part of the city: “Jack this barrier to commerce, man, I got deliveries to make” (Stephenson 2003, 46). It is in this sense that the “digital city” is best understood as an integrated regime of throughput that links movement with data and contract.

The third category (protocol and identity, wherein identity itself becomes a stack of permissions and interfaces) yields an illustration of sovereignty as procedural exclusion rather than territorial imposition, a dynamic that becomes stark in *The Black Sun*: “These people can’t pass through the door because they haven’t been invited” (Stephenson 2003, 40). The exclusion is not so much social as it is procedural, a form of filtering that differentiates who is allowed to

be present. And the process of exclusion is itself partial, suggesting a kind of protocol as governance-by-prioritization that allows for a selective and ultimately imperfect imposition of rules: so few people are allowed in because “the computer system that operates the Street has better things to do than to monitor every single one of the millions of people there” (Stephenson 2003, 40). What emerges is a city where value, exclusion, and control come from the administration of attention and constraints, making it more efficient to regulate some interactions and exclude others than to simulate reality perfectly.

This particular model of selective protocolization corresponds to Hayles’s argument that posthuman subjecthood is formed when the body is made “the original prosthesis we all learn to manipulate” and human being is “seamlessly articulated with intelligent machines” (Hayles 1999, 3). Here, in *Snow Crash*, that articulation is a quotidian aspect of urban membership; access, visibility, and addressability are all mediated as interface. Methodologically, we use *Snow Crash*, read through a repetition of spatial processes each of which creates a corresponding self-formation; the self, in the novel’s case, can be seen not primarily as psychological but rather as procedural. Thus we attempt to trace how gating creates role compression, how the franchise model and micro-jurisdictionality create a permissioned identity, and how platform real estate creates a sellable frontage of visibility.

Evidence selection follows the protocol of organizing sections around scenes. A section typically gathers three or four iconic scenes that emphasize one spatial operation, then tests whether that operation consistently produces similar subjects both in “Reality” and in the Metaverse. To take one instance, the city’s security mechanism functions as bodily infrastructure and as the wearing of command authority as a physical environment: in the novel, Stephenson’s MetaCops have the capacity to deploy the full, glinting majesty of their “Personal Portable Equipment Suite” on their “Personal Modular Equipment Harness” (Stephenson 2003, 46). Stephenson’s language highlights modular equipment that is wearable on the body and thus constitutes an environment, arguing that urban authority in the novel has the nature of wearable procedure. Lastly, satire and hyperbole both operate as elaborative exaggeration, making the mechanism of fragmentation legible.

Stephenson’s matter-of-fact observation of surveillance economies, “Videotape is cheap. You never know when something will be useful, so you might as well videotape it” (Stephenson 2003, 35), allows us to see the infrastructural mechanism that accounts for why urban space can be transformed into its own archive and what this transformation will do. Here the “digital city” functions as the analytical machinery of the novel because it perpetually transforms social phenomena into procedures, and procedures into the conditions for subjects to appear, to move, and to persist.

**The franchised physical city: burbclaves, franchulates, and the logistics of personhood**

The “real world” is made digitally executable in *Snow Crash*, reconfiguring the operation of politics, economy, and personal identity around mediated circulation. The Deliverator is never presented in terms of any interiority or subjectivity but as a logistics function defined by the assumption of risk and value as expressed through his service contract: “CosaNostra Pizza, Inc., has a strict thirty-minute delivery policy... The Deliverator has to make up the difference... If he is late, it is an offense... against the Mafia” (Stephenson 2003, 3). Velocity is political economy; lateness is contract breach. A franchise is no longer a supplier of sustenance but a supplier of an apparatus of control, one in which the bodies of delivery people are mobile conduits, and one in which their “rights” depend on forward momentum. The division then is not the product of feeling but of engineering. This is a city which makes corridor-subjects whose only legibility consists in their job and role as a party in a transaction, and not as citizens. This sequence is infrastructural satire in that it shows how the privatized circulation is driven, and it depends for humor not on stylistics, but on process. The novel makes this adherence to process an essential element of survival for the Deliverator: “The Deliverator never opens the door of his vehicle, even to get out... It is called a Procedure. A whole list of Procedures is printed in a three-ring binder... Even opening the window takes precious time” (Stephenson 2003, 9). The point is not simply velocity, but that the city builds subjects through routinized processes, and the binder epitomizes this fact of protocol regimes that control movement, the risks and exposures of transit processes, and gives formal structure to the novel’s ‘balkanization’. These distinct administrative zones are, through the procedures, seamlessly operative for capital. The Deliverator is a functional joint of these divisions, the man who must imagine transit as obedience, and obedience as survival, and it is the split that gets made operational.

If the Deliverator embodies the performance of corridor labor, the central premise governing the novel’s geography is this: fragmentation is sovereignty. The digital twin of this geography is that its modularity is code-based, its territory sectioned into interoperable segments that run individual jurisdictional codes that can be connected into a larger matrix by contracts, treaties and paid security services.

The modification merely changes ownership, naming, and function: “Vista Road used to belong to the State of California and now is called Fairlanes, Inc. Rte. CSV-5... Finally, a big developer bought the entire intersection and turned it into a drive-through mall. Now the roads just feed into a parking system... and lose their identity” (Stephenson 2003, 7). Former urban forms become asset classes, transit becomes controlled throughput into managed consumption. Direction is converted into a re-nameable, braidable, purchasable (and even neutralizable into parking circulation) proprietary function.

*Snow Crash* imagines post-industrial Los Angeles as a cognitive architecture of privatization, in which the fragmentation of public space into franchised territorial bits is not a failure of post-industrialism, but its rationalized, entrepreneurial manifestation: urban infrastructure becomes an asset class, management becomes informational sovereignty, and the spatial order becomes the political (Lewis 2017, 58). This explains why, without needing explicit ideological justification, borders proliferated so rapidly throughout the novel. If roads are private property and neighborhoods are separate domains, then boundary crossing is not a dramatic event but a routine maneuver. In such a city movement is never just movement but also travel through a proprietary segment with its own code, fee, and enforcement apparatus. The public learns to expect fragmented spaces, jurisdictional shifts as significant as lane changes. Castells' networked city is a minimal framework because it conceptualizes the mechanism by which "flows" can unite while simultaneously "reproduc[ing] the division and segmentation of space" (Castells 2010, 439), and *Snow Crash* vividly embodies this dialectic through both intensified corridor development and the subjectification of the crossing of boundaries, which is not transcended but monetized and institutionalized into ordinary motion.

In this border-thick, regime-centric city, personhood is not an internal essence but a movable authorization status through which legitimate movement is granted. Here, as demonstrated by Stephenson, personhood is an access token that the person carries with him at all times: "She's got a White Columns visa... It's right there on her chest, a little bar code. A laser scans it... and the immigration gate swings open for her" (Stephenson 2003, 33). Instead of a supplement to citizenry, this legal document is actually supplanting internal and external persona, and it is the subject that is scannable whose readability grants it access, and exclusion, as well (Joshua 2017, 17–47). In essence, the fragmented self is an access regime: a multiplicity of permissions that may or may not be called forth at any gate. This "computational anxiety", as it is termed in Joshua's *Snow Crash*: subjects are rewritten as an informational body whose agency is directly proportionate to his or her ability to be interpreted within the framework of technology, treated not as subjects with subjective interiority, or a psyche and/or morality, but instead as functions of access, verification and control. Intensified police authority transforms law into protocol and jurisdictional authority into portable code. Protesting the venue of the alleged violation, Y. T. is answered by MetaCops in treaty, legal status labels and transferable jurisdictions: "You have been identified as an Investigatory Focus... alleged to have taken place on another territory... Under provisions of The Mews at Windsor Heights Code... A treaty between The Mews at Windsor Heights and White Columns authorizes us to place you in temporary custody" (Stephenson 2003, 48). This novel's "digital" government is not simply computerized but rather modular and executable: in the form of named categories, codified clauses, contracted

interoperability. One does not become an “Investigatory Focus” due to some infraction that traditional law deems warranted of such a classification, but because a handle upon which to operate the process has been generated.

The privatization of civic services is a final act of this totalizing process, making both inclusion a marketable trait and confinement a privatized service. White Columns divests itself of the outward expenditures of authority, establishing a direct correlation between institutional absence and the value of property, where, “White Columns... Has no jail, no police station. So unsightly. Property values... MetaCops has a franchise just down the road... As for a jail... Any half-decent franchise strip has one” (Stephenson 2003, 49). The civic spaces of the city are reimagined as a franchise hub, the subject’s relation to authority reconfigured into one of a customer to a contracted service. This form of “community” is constituted by rendering carceral spaces invisible and by using distant franchise operations in their place. The franchised state, a characteristic described by Crawford as a form of sovereignty that is fragmented and contractually governance-based, becomes defined by the replacement of public law with the authority of franchise companies. This makes civic order a function of profit and legitimacy subject to its success (Crawford 2018).

The primary feature of the subject as protocol is that this novel asserts that street-level practice has become equivalent to implied consent, and the subject Y.T. is directly informed by the MetaCops that “any movement... not explicitly endorsed by verbal authorization... constitutes an implicit and irrevocable acceptance of such risk” (Stephenson 2003, 48). This development makes the flesh-and-blood human inhabitant of the street the functional equivalent of the internet user, who blindly agrees to terms and conditions simply by clicking past the pop-up contract. Each individual moment of volition, which would traditionally be construed as human agency, becomes simply the signing of multiple, separate, conditional, localized, and easily revocable consent forms.

What this fragmented community means, at least in the case of this text, seems to be more than a distribution of bodies into distinct zones of proximity. Instead, it describes the ways in which lived experience is mediated into explicit agreements and liabilities. The franchised city of *Snow Crash*, much like an advanced computer interface, registers and monitors each moment, and the fragmented self is the human body, that must navigate a gate of operations by consenting to them as digital protocol.

### **The Metaverse as city: the Street, property, and platform urbanism**

We do better to understand the novel’s Metaverse as a legible city-form, an axial spine, bounded parcels, policed entry points, zoning-like restrictions, and enforceable limits on what can be seen and how many people can be present, and not simply an “online realm.” Cityness

in *Snow Crash* is not merely metaphoric. When Stephenson has Hiro “approaching the Street. It is the Broadway, the Champs Élysées of the Metaverse” (Stephenson 2003, 24), the comparison is infrastructural, not aesthetic. Broadway and the Champs-Élysées are both grand avenues in which circulation and visibility concentrate both attention and value. The centrality of the Metaverse is thus mediated by frontage and visibility, making the city’s “public space” into a controlled spectacle of circulation on an owned spine. Zakarneh et al. are thus correct to observe that *Snow Crash* designs the Metaverse as a postmodern proto-city where architectural and digital infrastructure are designed together to replicate capitalist division through spectacle and control (Zakarneh et al. 2024, 244–58).

If the street is a spine, then, it is so because it is constructed like one: by apparatus, not by analogy. Standardized corridors, access points controlled at the entrance, thoroughfares, chokepoints, and gates reappear as interface conditions as if jurisdiction were just another graphic overlay. Stephenson dramatizes arrival as logistics, not ambling. Hiro traverses a named entranceway: “Port Zero, which is the local port of entry and monorail stop” (Stephenson 2003, 35). “Port of entry” is the decisive phrase; it grafts sovereignty onto the discourse of frictionless immersion.

A port does not merely connect. A port filters; it permits or denies entry. It reifies the flow of movement into a process that can be measured, priced, stopped. And that is what makes the Metaverse urban in a more stringent sense: access is funneled through choke points that are both observable and taxable, monitorable and salable. And Uluba Hamurcu’s point proceeds, with an air of the inevitable: Metaverse spaces reproduce the city’s spatial regimes and access controls, rather than transcend them (Ulubaş Hamurcu 2022, 73–81). The city returns as power structure.

And that spine also produces the classic core/periphery split: Stephenson refuses the narrative of unboundaried expansion, and instead emphasizes the main through-way as that which structures everything else as subsidiary: “Developers can build their own small streets feeding off of the main one” (Stephenson 2003, 25). “Feeding off of” is the telling urban analogy; its terms are those of dependence. Recognition and traffic occur along the spinal corridor; side streets become appendices whose value derives solely from their position relative to the main thoroughfare. The Metaverse is not the open commons of “spaces” it sometimes imagines itself to be, but a corridor-city where imposed centrality is monetizable centrality.

In being conceived as a corridor-city, the Metaverse turns property into the ultimate metaphysics of place. All free invention is readily subsumed into permitted location and paid-up residence. Stephenson frames corporate relocation onto the Street as a bureaucratic real estate procedure, where corporations “have had to get approval from the Global Multimedia

Protocol Group, have had to buy frontage on the Street, get zoning approval, obtain permits, bribe inspectors, the whole bit” (Stephenson 2003, 25). The humor is not just that a virtual space mimics civic corruption: it lies in how the city’s very “publicness” is rendered as a stack of permissions. “Frontage” mobilizes the typical mechanism whereby nearness to the main artery generates value; “zoning,” “permits,” and “inspectors” are names for institutional machinations that consolidate and protect this value. Kim makes clear how the Metaverse acts as a heterotopia of regulation, in which corporate sovereignty supplants civic authority and real-estate relationships with regard to access replicate the hierarchies of capitalist urbanism in an online environment (Kim 2022, 219–220).

Which is why the “Metaverse origin story” of the present is dangerously misleading if taken as an unproblematic narrative of technological breakthrough. We must remember that the word ‘Metaverse’ was invented in 1992 in *Snow Crash*, where it appears as an archetypal parody of techno-capitalism, not an unironic celebration (Smethurst, Barbereau, and Nilsson 2023, 2). The satire is significant as it shows the object of attack; not virtuality itself but a reconfiguration of social space as infrastructure, privatized and extractive. The scene of the zoning meeting is funny precisely because it is so accurate; its humor works because “public space” was already an exchange.

The programming of place is that of the city as a permissions architecture. Mitchell spells out what Stephenson does; “A locked gate or door is an authentication system” (Mitchell 1996, 130). The Metaverse simply expands “gate” and “door” into procedural processes, dictating the frontage, the entry, and the visibility; what matters about a cyberspace city is not what it resembles but how fully it makes visible a city’s *modus operandi*: a place is perpetually authenticated and its public transit charges a toll.

If the Metaverse is a city, then the avatars are less like ‘profiles’ and more like civic bodies, readable, addressable, performative presences. Stephenson describes this in raw technical terms: “The people are pieces of software called avatars” (Stephenson 2003, 35). The sentence reduces personhood to the status of user. To be a person in this city is to be rendered, tracked, located, to exist as an entity that the system has authenticated to be present. You are a citizen in this world not by your interiority but by your presentation, your placement, and your ability to be recognized as a thing-in-a-thing-world.

Visibility, then, is intrinsically coupled with rank. An avatar is a body through which to perform the desirable (status, attractiveness, or menace) and on which to be judged as such; “These are nice kids, and they don’t want to talk to a solitary crossbreed with a slick custom avatar who’s packing a couple of swords” (Stephenson 2003, 36). This is not a question of aesthetic taste, but of urban transaction. The cues are about legible capital and about class: a

custom, slick avatar implies high visible investment, and fashion has become the sign of your status in the city. The Street's "publicness" is a performance of controlled introduction and deflection.

Even the freedom of appearance is conditioned by material inequality. Immediately after stating that the avatar may look like whatever one wants, Stephenson clarifies: "Your avatar can look any way you want it to, up to the limitations of your equipment" (Stephenson 2003, 36). The limits imposed by lack of resources reassert themselves as the limits of resolution, bandwidth, and rendering power and so class distinction is an optical difference of resolution, beauty and trustworthiness.

Platform urbanism is perhaps most obvious in the way the Metaverse makes actual the techniques of crowd control and exclusion of city spaces. As a privately controlled "public" space, the Black Sun's rules are embedded within the laws of physics of its social space: "Only so many people can be here at once, and they can't walk through each other. Everything is solid and opaque and realistic" (Stephenson 2003, 55). Capacity limits, collision rules, enforced opacity: these are all forms of governance; they control numbers, movement, and access. Fragmentation is created not only by distribution among screens, but by urban space governed by programmability and by the necessity of maintaining a modular, packaged self (with its attendant appearance, access privileges, permitted intimacy).

### **The fragmented self: avatarization, surveillance, and the reprogrammable mind**

*Snow Crash* shows fragmentation as an ordered urban state, developed from overlapping logistical, representational, and cognitive systems. For Stephenson, fragmenting the self happens across three domains: the franchised city (which separates subjects by function), the Metaverse (in which identity is defined by clarity in an economy of representation), and the viral protocol (in which the mind can be inscribed).

Subjectivity crisis is, therefore, intrinsically linked to the technical and spatio-textual conditions through which selves are distributed. The self is mediated by corridors, screens, ports, identities, and streams. Identity itself can be presented, retrieved, trafficked, and, at the novel's most radical moment, rewritten. This focus elucidates the satire. The Metaverse must be read as an analytical device revealing the production of alienated individuality under technocapitalism. Jokes are significant because they continually reveal the practices that render fragmentation mundane. They show how distributed selfhood is perceived as ordinary, efficient, and desirable. The primary issue is the state's creation of isolation as government, followed by the internalization of this isolation as a workable model of the self.

Wisecup explains this problem succinctly through semiotics: Stephenson reinvents fragmentation as a semiotic condition of the posthuman city, which continually rewrites

subjects via representation, language, and data that mimic the city's protocols, rendering satire a grammar of control by revealing how techno-cultural systems generate distributed, obedient selves via signification and traffic (Wisecup 2008, 862). The humor belongs to this grammar; it offers analysis, demonstrating how control manifests in signs, routes, addresses, and interfaces. This logic is most clearly demonstrated in its handling of names. In *Snow Crash*, the name is already an interface. Giving over a card to an informant allows memory to be translated into profit. "Stupid name," the informant remarks, "but you'll never forget it" (Stephenson 2003, 26). This is hilarious but true socially. An indexable handle is capital.

Just as the memorable name gains a purchase within systems of recognition, it also circulates quickly through those systems. Reputation, indexing, retrieval, and access fall within the same protocol. A subject who can be called can also be found; a subject who can be found can be acted upon. It is in this telescoping that Stephenson's grim brilliance lies. Identity has become availability. Personhood is produced in a capacity to be found, sorted, and utilized.

The subject of *Snow Crash* takes on yet more modulations of this theme through the emergence of characters as modular labor-forms. Hiro is first presented to us as a function-stack: "The Deliverator used to make software. Still does, sometimes. But now he makes pizza" (Stephenson 2003, 1). This sentence establishes character through transferable competencies: the subject becomes an assembly of skills activated by market velocity, by the context in which demand arises and corridors permit. Social agency appears as a capacity for actionable throughput; the need for speed requires encapsulation within function, service level, route, and role. The subject, in essence, has become a unit designed for circulation.

Krynytska's argument regarding language as a regulatory interface underscores the extent to which naming and semiotic recognition function as methods of sorting and control in *Snow Crash*, where the novel's linking of linguistic determinism with digitally governed subjectivities "recasts the Puritan idea of logos as protocol, in doing so both fixing and grounding meaning, value, and identity within a circulation of programmable names" (Krynytska 2024, 87-88). The humor is in the seriousness of names; they classify, validate, access, and expose the subject.

Just as names that gain traction through memorability lend legibility, so do they pose an extraordinary threat. In a system of legible, accessible identity, the unforgettable name functions as an organizing principle that allows for greater intelligibility by systems that profit from that legibility. Swanstrom's essay on circulating subjectivity elucidates the tension between the enclosure and penetration of networked systems in *Snow Crash*, in which the subject remains precariously poised between confinement and exposure (Swanstrom 2010, 54-80). Through this lens, the sheer joke of "Hiro Protagonist" comes into focus as the problem of

two simultaneous binds; the more efficient our circulation becomes, the more liable we are to capture.

The surveillance system in *Snow Crash*, too, operates by the same logic of distributed agents. There is no single omniscient sovereign who surveils the subjects of the novel. Surveillance is an effect of circulation itself, attaching to mobile bodies, carried along by their movement through space, and translating experience into data streams that are transmitted. The space surveilled is, indeed, one where the agents of social control operate through distributed relay rather than through the operation of a central tower.

The most compelling symbol of this transformation is the “gargoyle”. The device attaches a transport layer to experience. As Stephenson describes the gargoyle, “CIC picks out one of their agents and sends him out to do some surveillance. They put him on a gargoyle rig so that everything he sees and hears is transmitted back to the CIC” (Stephenson 2003, 133). The sentence establishes the operation. Agents are selected, sent forth, and then the contents of their senses are processed. In effect, it proposes a direct mechanism for the translation of perception into an exportable datum stream.

Once the act of seeing and hearing is reducible to a transmissible data stream, the city becomes an enormous recording machine. This convergence of movement and capture enables a situation in which, as the subject moves, data follows them along. The person becomes a component of the infrastructure that houses it, and, consequently, the city begins to function as an apparatus for the continuous extraction of social reality.

Skaria’s analysis of “posthuman surveillance assemblages” names precisely this formation, in which, in *Snow Crash*, perception has been reconfigured as an infrastructure comprising human agents, nonhuman agents, and network infrastructure, blurring the lines of subjectivity with information flow. The gargoyles instantiate “rhizomatic surveillance,” through which the space of human movement becomes simultaneously a site of continuous capture (Skaria 2025, 130-132). The issue is one of the reconfiguring of perception as infrastructure.

This reconceptualization of the body as the site of civic practice marks the gargoyle’s re-description of embodiment as transmission, the migration of the city’s perceptual apparatus into the citizenry. Agency is translated into work, into data production: achievable, minable, sellable, and weaponized. The cyborg vocabulary offered by Haraway serves as a descriptive shortcut here: with the union of organism and machine, agentive practice reorganizes around interface, feedback, and relay (Haraway 1991, 149-50). In *Snow Crash*, the dissolution of boundaries has been normalized. Seeing and hearing are now transmission technologies; movement is acquisition; street-space becomes an indexable stream of data.

The satiric registers are accordingly diagnostic. Parody and satire have already been recognized as primary critical tools for Metaverse interpretation (Smethurst, Barbereau, and Nilsson 2023), and the gargoyles represent some of the novel's most embarrassing images of networked personhood. Their silliness is productive: the figures foreground the logic of modular instrumentation and surveillance. Surveillance becomes an inherent feature of circulation, coexistent with leisure, trade, policing, and private security services. The subject is now acclimated to being observed continuously; the continuous observation has simply been relabeled "connection."

The conceptualization of encapsulation and penetration by Swanstrom makes especially cogent sense when viewed as a mode of survival. When Y.T. asks how, exactly, the goggles allow immersion while the user moves through physical space, Hiro provides an explanation based on infrastructure: "How can you be goggled in if you're walking down a street?" she asks. He says, "The goggles are used by industrial spies, corrupt police, and random people like me... If he isn't, he'll get infected" (Stephenson 2003, 266). This brief exchange links three important categories of immersion: the immersion that comes from interface-privilege, the immersion that comes from exposure to coercive forces, and the immersion that comes from the threat of contamination. The phrase "goggled in" signifies entry into a world in which permeability itself is actively curated, exploited, and weaponized.

This, in sum, is the experiential meaning of existence in circulation. A subject must continuously negotiate the boundaries between incoming and blocked information at a variety of levels: franchulate borders, the aperture of the senses, and intake at the most micro-level of informational processing. Turkle's work on networked identity helps flesh out the process: although the interfaces allow role-switching and self-multiplication, the cycling of selves and the fragmentation of experience may result in the disassociation of the identity from its embodiment, creating a body "just one more object" among many others in the repertoire of the self (Turkle 1995, 253). Stephenson exacerbates this tendency by integrating the circulation of representation with the infrastructure of capture: the self exists as border work that must be constantly performed under conditions defined by city corridors and by the algorithms that drive the Metaverse.

The fracture of personhood proceeds beyond street-level and platform-level interaction into cognition itself. *Snow Crash* constitutes the culmination of a civic imagination that already posits personhood as a multiplicity of roles, faces, accounts, and representations. The virus is named in what sounds like a moment of apocalyptic prescience by Juanita: "Bad news. A metavirus. It's the atomic bomb of informational warfare... Nobody has any defense against it"

(Stephenson 2003, 200). This diction, although militaristic, refers to an infrastructure rather than a bomb: the metavirus stages a coup against interpretation.

This coup occurs by compromising routing itself, the channels that allow signs to carry meaning and meaning to inspire bodily reaction. Stephenson's most bitter satire derives from the revelation that domination may result from the control of the protocols of interpretation. For Ingwersen, this is what makes *Snow Crash* "media-epidemiological": "information...behaved like an infectious agent...that reveals the hidden materialities of influence that shape the connections among bodies embedded in wider ecological and technocultural systems" (Ingwersen 2021, 417-418). Stephenson imagines the controlling myth of the digital city: protocol is plague and cognition is infrastructure in crisis.

This slide into cognition is prepared for by the re-description of vulnerability as structural depth. The hacker's ways of seeing, moving, and recognizing are laid out. The narrative speaks directly to them: "You're a hacker. That means you have deep structures to worry about, too... Remember the first time you learned binary code?" (Stephenson 2003, 117). Learning here is self-inscription, and mastery is, at the same time, an arrangement for future infiltration. Lewis suggests that *Snow Crash* defies the fatalism of the dystopian by treating cognition as a technology which is itself adaptive, so that hacking becomes a mode of cognitive resistance within a system predicated on the commodification of consciousness (Lewis 2017, 58). While this highlights an aspect of the novel, Stephenson's satire extends further: Hacker expertise and viral infection are parallel demonstrations of a premise that the mind is an architecture, and architectures can be entered. Some forms of entry masquerade as skill, others as disease.

The metavirus is the limit-case of earlier thematic concerns within the narrative. The same logic of governance that codifies border-crossing, credential-checking, franchised sovereignties, and access controlled spaces ultimately comes to conceptualize consciousness as a further interface, checkpoint and gate that one can be permitted, forced or refused passage. Porush calls this an obsession with a metaphysics of the brainstem in which the interface between mind and machine by-passes the normal route of sensuous experience and immediately instantiates it in that infinitely plastic sensorium, the brain/mind (Porush 1994, 537). In Stephenson's city, having fully colonized exterior thresholds, the internal frontier has now been discovered, turning the border zone into an internal locus of control: At this last limit, the border zone that had defined Stephenson's world is internalized; the nation-state, like so many other thresholds, has been re-engineered from a boundary with the Outside into an interior frontier.

Hayles offers a theoretical parallel. The cultural obsession with "information" as separable from form/matter serves as a way of imagining both minds and bodies as potential substrates to be run on or with code, facilitating a posthumanist logic where control and manipulation travel

not via relation between bodies but via code (Hayles 1999, 2-3). *Snow Crash* is the nightmarish version of this dream; a city which governs body-traffic via franchised territory ends up governing signal traffic via the optic nerve, and the aspiration of the city as a digital space becomes explicit: to reduce personhood to an addressable data architecture and infiltrate it with an appropriate exploit.

The infrastructuralization of the virus becomes obvious in the narration's treatment of it as a portable commodity: "He put it in a bottle. An informational warfare agent for him to use at his discretion" (Stephenson 2003, 406). This bottle represents the blasphemous materialization of the logistics of control; a minuscule warehouse containing the act of violating consciousness, a medium for transportability, storage, and implementation.

At this point the severity of fragmentation reaches its highest: "Self" has become broken into roles, avatars, functions, and interfaces, which are then subjected to insertion protocol at the fundamental level at which perception becomes a neural event. Representation here collapses in favor of re-writing. The digital city of *Snow Crash*, whether Reality or Metaverse, functions as an ecology of segmentation that ultimately results in cognitive urbanism: a designed space that teaches subjects to inhabit themselves as routed interfaces, as objects eternally one system update or surveillance stream away from deep alteration.

Imdad and Aleem argue that the narrative transforms human identity into cybernetic capital which names this outcome precisely; cognition, language, and body are all refolded into infrastructures for capital and control, the virus acting as the ultimate realization of consciousness-as-commodity: a programmable interface between mind and machine (Imdad and Aleem 2025, 58). Satire, at this stage, takes the form of infrastructural judgment, as Stephenson's humorous construction details a reality in which the self can only persist as a routed, regulated, and reprogrammable condition.

### Conclusion

In reading *Snow Crash* as a theory of digital urbanism, one of the central arguments is that it constructs fragmented selves. Stephenson argues that both the franchised cityscape and the virtual space of the Metaverse are embodiments of fragmented selves; not as a private psychological struggle, but as an infrastructural consequence of how space is built, divided, and overseen. In the city of franchising, micro-sovereignty, timed proceedings, and credentialed entry enforce subjects to obey a linear path, whereas in the Metaverse, these elements are magnified. In other words, frontage, visibility, and access are explicitly reprogrammable; personhood is modular. The self takes on forms such as roles, avatars, scannable permissions, and eventually vulnerable cognition. The satire within the narrative, thus, plays an integral part in its political commentary. It makes the structural relations visible and emphasizes that

selfhood is engineered, in many cases by technologies so mundane that we are unaware of their power. This reframing of the novel is not about whether it predicted the current Metaverse discourse; it is about its diagnostic continuity. Stephenson's account of platform urbanization remains relevant to the contemporary Metaverse imaginary because it treats virtual space as a permission architecture rather than a neutral technological frontier.

According to Smethurst, the Metaverse is introduced as a parodic, techno-capitalist construct; as time passes, the satiric warning behind the term fades (Smethurst, Barbereau, and Nilsson 2023). Once understood at this origin, the Metaverse is not so much a progressive frontier, but a diagram of continuity: the appropriation of property relations into interface design, the transport of surveillance techniques through ambient capture, and the role-based identity of users in lieu of a civil relationship. Stephenson's analysis on how virtual worlds need port access, zoning, permits, and capacity management clearly illustrate how public space can be simulated and controlled by ownership. His work also anticipates that this is not about technology, but about how the digital city becomes a form of permission architecture. This study can be further explored in three ways: one on how infrastructural segmentation and subject formation is modeled in cyberpunk and postcyberpunk texts, especially if state sovereignty is no longer the primary logic. The second aspect on how frontages, addressability, and scarcity is engineered in current virtual networks, and how they recreate stratification.

And the final aspect is on how newer texts in postcyberpunk re-examine Stephenson's modular selves, and explore alternative notions of agency, beyond the limits of role, interface and cognition (Kamols, Foth, and Hearn 2025, 133-136). The most relevant contemporary texts would include the ones regarding Decentraland and virtual-city governance.

- 1. The author declares that this article did not receive financial support from any institution, educational center, or approved research project.**
- 2. The author declares that there is no conflict of interest related to this research.**
- 3. The author declares that no generative artificial intelligence was used in writing this article and that the entire work is their own creation.**

## References

- Abbott, Carl. 2007. "Cyberpunk Cities: Science Fiction Meets Urban Theory." *Journal of Planning Education and Research* 27 (2): 122–31. <https://doi.org/10.1177/0739456X07305795>.
- Castells, Manuel. 2010. *The Rise of the Network Society*. 2nd ed. Malden, MA: Wiley-Blackwell.

- Collie, Natalie. 2011. "Cities of the Imagination: Science Fiction, Urban Space, and Community Engagement in Urban Planning." *Futures* 43 (4): 424–31. <https://doi.org/10.1016/j.futures.2011.01.005>.
- Crawford, Steve. 2018. "Neal Stephenson and the Franchise-State: Questioning Preconceptions of Nation-States and Borders from a Legal Perspective." *Brief Encounters* 1 (2). <https://doi.org/10.24134/be.v2i1.92>.
- Haraway, Donna J. 1991. *Simians, Cyborgs, and Women: The Reinvention of Nature*. New York: Routledge.
- Hayles, N. Katherine. 1999. *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics*. Chicago: University of Chicago Press.
- Imdad, Jonathan Caleb, and Faiza Aleem. 2025. "Cyborg Identities and Posthuman Agency: A Cybernetic Study of Neal Stephenson's *Snow Crash*." *Journal of English Language, Literature and Education* 7 (2): 57–72. <https://doi.org/10.54692/jelle.2025.0702281>.
- Ingwersen, Moritz. 2021. "Media Exposure: Communicable Disease and Communication Networks in Neal Stephenson's *Snow Crash* and Don DeLillo's *White Noise*." *Configurations* 29 (4): 417–33. <https://doi.org/10.1353/con.2021.0030>.
- Joshua, Judy. 2017. "Information Bodies: Computational Anxiety in Neal Stephenson's *Snow Crash*." *Interdisciplinary Literary Studies* 19 (1): 17–47. <https://doi.org/10.5325/intelitestud.19.1.0017>.
- Kamols, Nicholas, Marcus Foth, and Greg Hearn. 2025. "The Citizen's Right to the Virtual City: Urban Governance in the Metaverse Through an Exploration of Decentraland." *Journal of Urban Technology* 32 (2): 133–60. <https://doi.org/10.1080/10630732.2025.2464525>.
- Kelly, Nicholas M. 2018. "'Works like Magic': Metaphor, Meaning, and the GUI in *Snow Crash*." *Science Fiction Studies* 45 (1): 69–90. <https://doi.org/10.5621/sciefictstud.45.1.0069>.
- Kim, Kyunghye. 2022. "Reading Metaverse as Heterotopia: Via Neal Stephenson's *Snow Crash*." *The Journal of East-West Comparative Literature* 59 (3): 219–36. <https://doi.org/10.29324/jewcl.2022.3.59.219>.
- Krynytska, Nataliya I. 2024. "Logocentrism of Puritan Idea and Its Transformation in Postmodern Era: Neal Stephenson's Novel *Snow Crash*." *Alfred Nobel University Journal of Philology* 2 (28): 87–105. <https://doi.org/10.32342/3041-217X-2024-2-28-6>.
- Lewis, Jonathan. 2017. "Confronting Dystopia: The Power of Cognition in Neal Stephenson's *Snow Crash* and *The Diamond Age*." *Extrapolation* 58 (1): 45–75. <https://doi.org/10.3828/extr.2017.4>.
- Mitchell, William J. 1996. *City of Bits: Space, Place, and the Infobahn*. Cambridge, MA: MIT Press.
- Porush, David. 1994. "Hacking the Brainstem: Postmodern Metaphysics and Stephenson's *Snow Crash*." *Configurations* 2 (3): 537–71. <https://doi.org/10.1353/con.1994.0034>.

- Skaria, Reny. 2025. "Mapping Posthuman Rhizomes and Assemblages in the Spatial Distribution of Neal Stephenson's *Snow Crash*." *International Journal of English Literature and Social Sciences* 10 (5): 130–36. <https://doi.org/10.22161/ijels.105.25>.
- Smethurst, Reilly, Tom Barbereau, and Johan Nilsson. 2023. "The Metaverse's Thirtieth Anniversary: From a Science-Fictional Concept to the 'Connect Wallet' Prompt." *Philosophy & Technology* 36 (3): 51. <https://doi.org/10.1007/s13347-023-00612-z>.
- Stephenson, Neal. 2003. *Snow Crash*. Bantam Spectra trade paperback reissue. New York: Bantam Dell.
- Swanstrom, Lisa. 2010. "Capsules and Nodes and Ruptures and Flows: Circulating Subjectivity in Neal Stephenson's *Snow Crash*." *Science Fiction Studies* 37 (1): 54–80. <https://doi.org/10.1525/sfs.37.1.0054>.
- Turkle, Sherry. 1995. *Life on the Screen: Identity in the Age of the Internet*. New York: Simon & Schuster.
- Ulubaş Hamurcu, Aslı. 2022. "The Metaverse, Online Communities, and (Real) Urban Space." *Urbani Izziv* 33 (2): 73–81. <https://doi.org/10.5379/urbani-izziv-en-2022-33-02-01>.
- Wisecup, Kelly. 2008. "'Let's Get Semiotic': Recoding the Self in Neal Stephenson's *Snow Crash* (1992)." *The Journal of Popular Culture* 41 (5): 854–77. <https://doi.org/10.1111/j.1540-5931.2008.00553.x>.
- Zakarnah, Bilal, Nagaletchimee Annamalai, Enas Khalil Alquqa, Khaled M. Mohamed, and Najeh Rajeh Al Salhi. 2024. "Virtual Reality and Alternate Realities in Neal Stephenson's *Snow Crash*." *World Journal of English Language* 14 (2): 244–58. <https://doi.org/10.5430/wjel.v14n2p244>.