

Space Junkies: Interplanetary Hoarding

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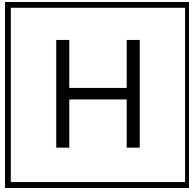
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Link to video: <https://vimeo.com/868466886?share=copy>

Outer Space and the City: Cohabitation Strategies with Interplanetary Infrastructures of Telecommunications (SSHRC¹, 2021–2023, University of Toronto/Concordia University) examines the role that telecommunications infrastructures play in shaping urbanization processes (Graham and Marvin, 1996, 2001). The project engages with the city not as a theatre for space exploration but rather as a concrete point of intervention. Embedded within the city in the form of mission control rooms, data centres, satellite dishes and cell phone towers, interplanetary infrastructures of telecommunications condition, monitor, activate, enable, and foreclose specific material, social, and technological modes of urban life.

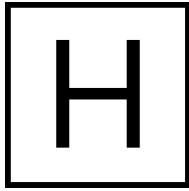
In September 2022, members of the research team made a brief ethnographic foray into the International Astronautical Congress (IAC) in Paris. Hosted by the International Astronautical Federation, the Congress is divided into conferences, plenaries, and

¹ Social Sciences and Humanities Research Council



technical sessions. It also features a “space fair” with hundreds of booths representing various industry stakeholders: space agencies, commercial companies, universities, research centres, individual startups/NewSpacers, and NGOs. In 2022, the IAC decided to go green and announced its plan to reduce greenhouse gas emissions before and during the Congress. This translated into a series of pragmatic measures: no more cold water in the water fountains, eco-responsible communication practices, and compostable dishware, among others. Paradoxically, both before and during the congress, attendees received at least one promotional email per day; the carbon footprint of an email is between 0.03g and 26g CO₂e (Berners-Lee, 2020). The 174 IAC Paris space fair booths also gave international visitors various goodies, including stickers, tote bags, pamphlets, stress balls, car fresheners, space food, water bottles, key chains, t-shirts, and gummies. Within the context of the IAC, “going green” highlights a series of paradoxes that underline the similarities and disparities of waste production on Earth and waste generated by space exploration activities.

In 2022, over 1.7 billion tonnes of plastic were exported by the OECD (Organization for Economic Co-operation and Development) to developing countries (Bernard & Martin, 2023). 5.1 million metric tons of e-waste circulated across borders (Fahlbusch, 2022). While the transboundary movement of waste contributes to environmental depletion, health hazards, and poor working conditions on Earth (*ibid*, Thapa et al., 2022), 36,500 objects larger than 10 cm, 1 million objects between 1 cm and 10 cm, and 130 million

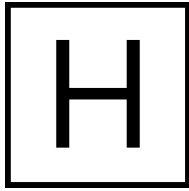


objects between 1 mm and 1 cm are now estimated to be orbiting our planet in space (ESA, 2023).

Whether on Earth or in extra-earth, the dominant mode of waste management focuses primarily on its regime of visibility. If we bury or burn waste, it goes out of sight. If we ship it abroad, it also goes out of reach. The same goes for space debris that floats in our solar system, simultaneously out of sight and out of reach. While most space debris is in low Earth orbit (about 2000 km from the Earth), satellites supporting our daily activities are mainly found in geostationary Earth orbit (GEO), 32,000 km above the Earth's surface (Collis, 2009). At a time when we strive to reach ever more distant destinations in the solar system, a new layer of “mission-related and fragmentation debris, nonfunctional spacecraft, and abandoned rocket stages” (Bardan, 2022) hangs over our heads, and has the capacity to “jeopardize access to space, and impede the development of a low-Earth orbit economy” (*ibid*).

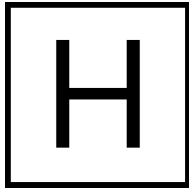
As space exploration has introduced far more than just humans into space, *what techniques of remembering can we draw on to elaborate the politics of cosmic landfills? What modes of symbolization can give rise to new forms of socialization between space debris and earthlings? What is the economy of the relationship between people, planets, and pollution?*

Environmental Studies Scholar Myra J. Hird (2013) challenges the ways in which landfills promote a culture of forgetfulness that feeds on techno-solutionism, fuzzy



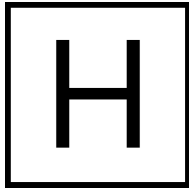
regulations, and managerialism. She invites us to revalorize waste as a networked aggregate of materials, politics, economics, regulations, governance, labour relations, consumption habits, and health and public policies, among other things (*ibid*). The science and engineering of landfills are based “upon the presumption of a world that can be contained” (p.120). This, Hird argues, “is all about making sure waste doesn’t leak,” (p.107) and that it remains environmentally, socially, and politically controllable and acceptable. The spacecraft cemetery at Point Nemo (also known as the oceanic pole of inaccessibility, the location farthest from land on Earth) exemplifies how waste’s regime of visibility is sustained by distance, and frames disposal practices as controlled acts of forgetting. With more than 263 retired spacecraft dumped in this area since 1971 (Gorvett, 2023), the cemetery is beyond any country’s jurisdiction. As a result, responsibility for chemical or radioactive leaks in the marine environment remains difficult to establish.

The hoarder is a conceptual character that serves a transitional role, recapturing and reinvesting the materiality of space waste. New materialist scholar Jane Bennett (2011) invokes the hoarder as a practitioner of vitality. In their capacity to connect with other bodies — mineral, flesh, or stone — hoarders, Bennet explains, “are pre-attuned to the call of things.” They enjoy a differently abled body, one that is perhaps equipped with different sensory access or an overextended receptivity to the agency of matter. The extent to which the ‘us’ and the ‘it’ slip-slide into each other” (*ibid*, 2010, p. 4) is their



concern. They think of their 'junk' as an extension of themselves, of their body, as though they were fused, one with their 'junk.' The hoarder obliges us to contrast objects and debris, trash and treasure, a distinction that can hardly be sustained with space debris. If space waste is uncontainable (and also uncountable), how could the hoarder exercise their sensorial and material abilities? Doesn't an emphasis on material attachment eschew the instrumentality of space waste, running the risk of generating uneven forms of mutual belonging?

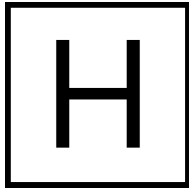
Attempts to render waste and extractive landscapes visible often lead to their aestheticization, as in the work of artists such as Edward Burtynsky. This is equally problematic as it reinforces the romanticization of industrialization and the Anthropocene. If rendering waste visible leads to a *status quo*, what renderings can guide us into living in the ruins of capitalism (Tsing et al., 2017), or, more specifically, in cosmic graveyards? Hoarding as a technique of attachment, as a call to things, works perhaps too well on Earth, where we cohabitate with materials that are loved and undesired, needed and needless, wanted and unwanted. Hoarding does not work so well in space. We are estranged from the materiality of space debris by distance and by the infrastructures that 'contain' it. Space waste, as opposed to landfill waste, is in a permanent state of leaking, actively resisting ordering, containment, and hoarding. Space hoarding is thus a form of visual lure where images become proxies of unperceivable materials. Created by Marie-Pier Boucher, Alice Jarry, and Guillaume



Pascale, *Space Junkies* (Ars Electronica², 2023) attends to terrestrial and spatial hoarding processes, juxtaposing material remnants accumulated at the IAC (2022), open-source footage, data visualization of space debris, and satellite views of space infrastructures in remote locations (e.g., space X, Blue Origin, NASA, Japan Space Agency, etc.). Alternating rapid successions of images and long, contemplative shots of isolated places, the video presents space debris and space goodies as “non-human entities and machinic ecologies that archive their complex interactions with the world” (Schuppli, 2020, p. 3) and act as “material witnesses” (*ibid*) of space exploration. Envisioned as a technique of remembering that parallels hoarding (both capital and material), *Space Junkies* addresses the ecological and environmental concerns engendered by interplanetary telecommunication infrastructures. It reassembles “forensically decoded” (*ibid*) goodies and debris into a multifaceted, layered, privatized, and (re)commodified cacophony. Paired with audio of utopian and dystopian narratives about space debris, *Space Junkies* resists resolving its paradoxes: it renders debris visible, hoarding it and critiquing its own process of making at the same time.

In the fall of 2023, the United States Federal Communications Commission fined Dish Network, an American television provider, \$150,000 for failing to deorbit a decommissioned satellite. While the US Senate has passed the Orbital Sustainability (ORBITS) Act, directing NASA to establish a program to remove orbital debris, no

² Presented at the Imprints exhibition, curated by Hexagram



enforced legislation prevents the accumulation of space debris, as Kessler predicted in 1978. Since space waste exceeds material forms of attachment and containment, its witnessing is no warrant of accountability, damage, or responsibility. Because leakage of space waste is networked across civilian, scientific, corporate, material, technological, social, cultural, and geographic forces, individualizing its modes of accountability could at best create polemics. What if leakage was a mode for complicating how we belong with infrastructure; a slow process that forces new organizations and alliances between industry, academia, civil organizations, and lay publics. In the absence of a current “call to action”, how can we move beyond the “call to things” and engage with leakage? What would accountable leakage of space debris consist of?

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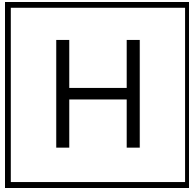
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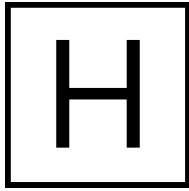
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Marie-Pier Boucher is Assistant Professor of media studies at the University of Toronto. She is co-editor of *Space Feminisms: People, Planets, Power* (Bloomsbury Press, 2024), *Being Material* (MIT Press, 2019), *Heteropolis* (2013), and *Adaptive Actions Madrid* (2010). She has exhibited collectively at *Ars Electronica* (2021 and 2023), *Rotterdam Architecture Biennale* (2022), *Centre George Pompidou* (2021), *Tokyo Wonder Site* (2014), *Leonard & Bina Ellen Gallery* (2010), and *Madrid Biennale* (2010).

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Media Arts, Design, Technology and Digital Culture, and Director of the Milieux Institute Speculative Life Biolab. As an artist-researcher, she specializes in site-specific works, art-science practices and socio-environmental design. Her research brings concerns about sustainability, aesthetics, and politics to bear critically upon materiality, material production, and urban infrastructure. Focusing on residual matter and active biomaterials for the built environment and the arts, Jarry examines how materiality - engaged in processes of transformation with site, technology, and communities - can provoke the emergence of adaptive forms and resilient socio-environmental relations. Her works have been presented locally and internationally at Centre George Pompidou, Planétarium de Montréal, Vox Centre de l'image Contemporaine, Biennale Nemo, Leonardo Da Vinci Museum of Science and Technology, Digital Arts Biennial, Le mois Multi, and Device_Art Triennale, among other locations.