Revue *Flux*

Urban Mines:
Flow of Materials and Recycling

Call for expressions of interest – Call form papers

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How far can we go in dismantling cities to repurpose and exploit their rejects? This is the question underlying this proposed issue of *Flux* which will investigate the flows and structures of a "planetary urban scrap yard" (Tastevin, 2022). More generally, this editorial proposal focuses on the socio-ecological issues of recycling waste in a global economy, by examining the political, technical and environmental exploitation of what we call the 'urban mine', i.e. the profitable exploitation of the discarded objects which, today, comprise all the artefacts produced by humans (technosphere). In addition to approaches previously tackled by *Flux* concerning the municipal management of waste (Subrémon, Gouvello, 2012), the circularity of materials (Garcier, Rocher, Verdeil, 2017) and urban metabolism (Barles, Bahers, 2019), this issue will focus on the dismantling of urban waste stocks, their exploitation and their transformation. Whether we start from surface or subsurface deposits, whether we follow the flows of recycled materials, or whether we deal with both by taking an interest in the territorial metabolism that determines them, this special issue, *Urban Mines: Flow of Materials and Recycling*, aims to document the efficiency of current dismantling techniques, and to trace and analyse the profitable circulation of sometimes toxic materials, particularly through the territories they transform, the value they create, the logistics they establish, the conflicts they provoke, and the soils and bodies they contaminate.

1. Context

Today, waste constitutes the largest growing deposit of resources on a global scale (Kaza *et al.*, 2018), resulting in a "refuse rush" (Cavé, 2015) which is evident in urban areas throughout the world. Indeed, cities abound in "urban raw materials", to take up again the expression of Sabine Barles (2005), which could be used differently. The concept of an 'urban mine' is attributed to Jane Jacobs who, in 1961, predicted that "cities will be the mines of the future" (quoted by Graedel, 2011). In other words, beyond mere waste, urban resource deposits are also found in everyday consumer goods — their extraction in this case denoting the classic problem of recycling — or in urban superstructures, infrastructures and soils (D'Arienzo, 2017; Wallsten, 2015). It must be understood that all sorts of products (buildings, vehicles, electrical or electronic equipment, packaging, etc.) contribute, determined by their own limited lifecycles, to the composition of huge resource stocks during their utilisation. Those interested in recycling will no doubt ask the following questions: How should one comprehend this composite mass of solid, inanimate objects created by human beings? Where should one stand in order to understand and describe diverse flows of inert materials which contribute to a new production chain?

In recent years, the scientific literature has documented the scale on which urban waste has been collected and recycled at the start of the recycling chain (Djellouli, Durand, Naoarine, 2015; Cirelli, Florin, 2015; Jaglin, Debout, Salenson, 2018; Dejouhanet, Bercegol, 2019). It has, however, shown less interest in the transformative activities that follow — the points of repurposing and resale that put waste back into the formal economy. To shed light on this grey area in the literature, this

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special issue is interested in the places, people and practices involved in recycling beyond the collection stage — how does recycling contribute to recreating material flows and to what effect? Articles in this issue should demonstrate and explain how the social worlds of recycling are structured on different scales, establishing material exchange networks that form the backbone of the flow of globally recycled raw material.

By examining the process from production to recycling, this issue aims to document a blind spot in global recycling chains — the local effects on bodies and environments. The urban mine is toxic, shaping a global collection of contaminated 'hot spots' in cities, suburbs, houses, wastelands and schoolyards, all of which are polluted by toxic chemical products and heavy metals released into the air, water and soil by factories, workshops, smelting works or landfills. The discourse concerning the economic and environmental advantage of recycling neglects to mention the concrete locations, people and procedures involved. What do we know of the urban recycling worlds? Of the organisations structuring them? Of the spaces they occupy? Of the actors and commercial networks they drive? How do these recyclers work? What expertise do they have? How do they manage pollution-related effects, if at all? What effects does recycling have on health? By considering global flows and the complexity of the social, environmental and technical processes linked to recycling, these papers should aim to identify significant locations and to analyse the structures and systems that combine physical phenomena, economic relations, technical systems, collectives of human actors, and political, legal and social regulation.

2. Expectations of Submitted Papers

Four key topics to guide papers:

1st Topic: Diversity and Heterogeneity of Recycling Techniques

Exploiting the urban mine is a surprisingly heterogeneous undertaking. On the one hand, mostly in the countries of the South, it relies on the ingenuity of small family businesses and 'informal' contractors whose recycling activities are based mainly on self-taught expertise. On the other, mostly in the countries of the North, it concerns state-of-the-art technologies brought in by the engineering departments and commercial strategies of multinational companies. Which recycling procedures are used in factories or artisan workshops? What are the implications of this diversity in the modes of transformation? While the creation of value occurs specifically in the diversity of the capacities to act efficiently on waste material, papers need to characterise the diversity of the forms of transformation and circulation of recycled materials. Of particular interest to this special issue are papers which focus on an interdisciplinary approach, on different scales, in understanding and describing the technical processes, procedures or knowledge involved in the separation and transformation of recycled materials.

2nd Topic: Relegation and Regulation of the Urban Mine

From the recovery to the transformation of materials, recycling activities are most often relegated to the margins of urbanisation, to shanty towns with abandoned real estate, to the remote outskirts of metropolitan regions where the most polluting industries have been established. How does regulation, or lack of it, contribute to transforming recycling locations and practices? What do we learn from the allocation of transformation industries to places far from the centres of power? While examining all the activities of the recycling chain, papers will need to describe the socio-spatial diversity of relevant actors and the professionalisation of a sector that links a continuum of workers, wholesale dealers, haulage contractors and industrialists, structuring a market of urban deposits beyond the formal or informal dichotomy. Papers should seek to understand the emergence and development of production chains, by taking into consideration the plurality of the contexts, the specificity and variety of the social and cultural substrata, and the variability of market integration.

3rd Topic: Commodification and Circulation of Materials

The recycling economy comes with risks, pollution and hazards, but it also creates dynamic markets that provide jobs and materials for locations involved in recycling. How does the commodification of recycling flows determine the circulation of materials between spaces? How and under which conditions are the constituent parts of urban stocks transformed into recyclable material, industrial input or new consumer objects for other markets? Papers need to show the relationship between the value of the materials in specific places and times, and the emergence of techno-economic industries that create new employment prospects through reintroducing recycled materials and goods into the urban productive process. Historical approaches, in this case, will be particularly appreciated, since the exploitation of the urban mine is especially unstable, fluctuating over time determined as it is by commercial industrial prospects as well as available technology.

4th Topic: Reconstitution and (Inter)Dependence of the Production Chains

Exploiting the urban mine forges surprising links between locations, connecting urban and regional margins, with undeveloped exchange and circulation nodes of their own, and linking local needs with regional or even international markets. By connecting locations and contributing to new ways of residing, working and living, the recycling economy reveals invisible spaces that have resulted from the waste of the current system. Conceiving the city through material flows could thus contribute to a meaningful reflection on the production of the urban environment. What do these secondary raw material networks tell us about the circulation of capital and its links with the urban context? What role does the structuring of this recycling economy play in the specific urbanisation of the spaces in which it takes place? By examining the ramifications of recycling networks, papers could demonstrate the interdependence of the territories and the socio-economic integration of sometimes remote outskirts into a generalised urban system with no clear boundaries.

This call for papers will accept proposals dealing with geography, town planning, land-use planning, history, social anthropology and spatial economics. What will be particularly appreciated are interdisciplinary approaches integrating social sciences with other disciplines, such as engineering or environmental sciences, in order to demonstrate the multiple dimensions and dynamics of recycling.

3. Submission Guidelines

Deadline for abstracts: 1 March 2023

Contributors must send an abstract of no more than 4 000 characters, along with the names of the authors and their institutional affiliations to:
remi.debercegol@cnrs.fr and yptastevin@protonmail.com

Contributors will receive feedback on their abstract by 1 April 2023.

Deadline for final papers: 1 October 2023

Once abstracts have been pre-validated by *Flux*, contributors will have until 1 October 2023 to submit the final version of their paper. The paper will need to meet the standards of *Flux*, i.e. an article of 30 000 to 40 000 characters, an abstract of 1 000 to 1 500 characters in French and English, as well as a biography of the contributors of around 600 characters.

For more information, please consult http://revue-flux.cairn.info/recommandations-aux-auteurs/

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