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Eric Verdeil

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Imad Kaafarani, Biodegradable, Digital illustration. 2021

Since the outbreak of the waste crisis in the wider Beirut area in 2015, the Lebanese government has resorted to the supposedly temporary solution of storing municipal waste in the coastal landfills of Borj Hammoud, Jdeideh, and Costa Brava. Far from being new or temporary, this solution is in fact merely a repetition of decisions implemented during the Civil War, and in a number of Lebanese coastal regions such as Saida and Tripoli, all of which share several characteristics.^[1] For instance, reclamations are often assigned to areas allotted for development in urban plans from the 1950s and 1960s, that were never implemented. These reclamations have become an important source for public works and real estate actors who are linked to leading Lebanese politicians, to dramatically increase profits and, in some cases, monopolize the land rent generated by these

developments. Finally, the material that gives these embankments their reality erupts in moments of what we might call metabolic disturbances: when a seemingly sudden urban crisis results in an unexpected flow of materials that need to be stored in a particular place (e.g. municipal waste, rubble). These mechanisms of urbanization are a clear illustration of the notion of the Anthropocene, in that they constitute a new geological stratum created by human action.

Urban Metabolism: Consumption, Dejection, Recycling

The notion of urban metabolism enables us to look at urbanization and reclamation projects along the Lebanese coast with a focus on the circulation and transformation of the materials that give the city its consistency. Using a bodily analogy for the city amounts to thinking of the materiality of the city as the food that our ancestors ate, and in turn the manure they fertilized their fields with. This organic cyclical thinking however does not apply to the embankments fed by the rubble of today's demolished buildings, excavated soils, and municipal trash; as what remains of them is infertile soil drenched in toxic fluids, poisoning maritime fauna and flora along with bathers audacious enough to soak themselves in the sea nearby. I offer here a look at urban political ecology as envisaged by geographer Erik Swyngedouw and his colleagues in the book *In the Nature of Cities*.^[2] Indeed, if the metabolism analogy is to be useful in bringing awareness to the materiality of the flows which constitute the city, we must also recognize the absolutely political nature of these operations of transportation and transformation. As political processes, they participate in the production and reproduction of power relations, in particular through the unequal mechanisms of capital circulation, thus once again posing the question of corruption and its role in the reproduction of the political elite in Lebanon, through the creation of monopolies. Another essential political dimension in this process of transformation concerns the representation of the future of Lebanese society and cities, through what I have called elsewhere a "planning imaginary".^[3] By this I mean a set of norms and representations or visions foregrounded in the development and urban planning policies of the Lebanese capital. Such visions were born from the interplay of major political players and elitist planners often closely connected to them. In particular, these visions define specific territories of intervention and political and social projects for specific places, most often on the coastline. The new coastal contours of the Beirut metropolis can only be understood as the combined product of the construction of this political and financial imaginary, as embodied in the resulting projects, and the materials that give shape to them.

Solidere and its Reclaimed Land

Beirut's current city center includes the most famous example of an embankment, often identified as BIEL, comprising of more than 60 hectares of parcellated plots and including a conference and exhibition center. This extension on the sea is the result of a series of projects and initiatives dating back to the 1960s, in particular one aimed at gaining seaside land while building a road bridge linking the Ain el Mreisseh corniche to the highway at the eastern exit of Beirut.

The fifteen years of civil war and the metabolic disruption it caused for the storage of domestic waste created the opportunity to fill in the Normandy bay, which became a dumpsite in 1978. Fouad Awada, an urban planner who was, a member of Master Plan for the Development and Urban Planning of the Beirut Metropolitan Region's team in the 1980s, wrote:

"Those who speak ill of the project remind us that this embankment on the Normandy bay, which spoiled one of the most beautiful sites of Beirut, was not as "spontaneous" and "forced" as it is claimed. The administrator had concocted it since the early 1960s, when he was Director General of Urban Planning, and he dreamed of making a highway pass through the width of the bay, to "close" the ring road around Beirut. The municipality would have received assurances that the embankment would be used for the construction of buildings, whereas the current management intends to turn it into a large central amusement park."^[4]

As early as 1983, the bulldozers of Oger Liban, then put at the disposal of the government free of charge by Rafiq Hariri, demolished buildings and neighborhoods considered irretrievable, most notably the souks of Beirut. This initiative was taken in a hurry, without planning, and provoked protests and indignation by public opinion. It is known that the reconstruction work in the downtown area, from 1991 to 1998, increased demolitions, amounting to a total of 80% of existing buildings in the area. This new rubble, in turn, was dumped onto the Normandy landfill adding considerably to its size.

The Normandy dumping site grew continuously throughout this period. Future plans to construct high-rises on this embankment required powerful reinforcements (a dyke capable of withstanding a tsunami, soil stability for high-rises among others), and therefore an added cost of several hundred million dollars had to be accounted for to clean up the site and provide new backfill materials. As the State could not pay this cost, it offered the land (with a high exploitation ratio) to Solidere as an in-kind contribution. In doing

so, it validated the profits the developers and their political backers anticipated, when they started a dump in the sea.



Empty land on the BIEL-Solidere reclamation project in 2015 (Photo Eric Verdeil)

The example of the city center embankment suggests that the first plans of sea reclamation played a role in channelling an unexpected influx of material (waste and rubble) resulting from the destruction of the city center. Subsequently, the financial imagination of the developers saw the landfill as an opportunity for profit. They consequently not only extended the area of the embankments but also imposed reinforcement works, which were at the same time a source of large profits.

The Reclamations of the North Metn

Several plans were proposed for land reclamation on the North Metn coast, where suburbs have been spreading out in disorder since the 1960s. The vision of the urban planner Gabriel Char in 1974 aiming at extending the port of Beirut was never realized, but in 1981, Metn MP Amine Gemayel launched a study carried out by Dar Al-Handasah to create an eight-kilometer stretch from Borj Hammoud to Dbayeh. This was intended to restructure the sprawl of urbanization, which had accelerated with the civil

war, by building missing infrastructural elements such as a new maritime road, a wastewater treatment station, commercial and light industrial zones, as well as real-estate and touristic developments around marinas. Once elected president, Gemayel kicked off the project with the support of Rafiq Hariri and that of the entrepreneur Joseph Khoury, who specialized in maritime works and owned the large Nahr-el-Mott quarry which was able to supply the dyking materials. From then onwards, the Borj Hammoud region became a waste material dump, much like the Normandy bay. But Gemayel and Khoury gave priority to the Dbayeh area, which was of a shallower nature and was thus more prone to development. Architect Ricardo Bofill drew up a plan, and works promptly began with the construction of a protective dam. The materials brought in from the quarry turned out insufficient and too expensive, and, with the use of municipal waste spoiling the site, the project came to a halt.

It was then revived in the 1990s. The Dbayeh area was subject to a development plan, the realization of which was once again entrusted to Joseph Khoury who received a third of the land in exchange for his services. Sold to the Emirati operator Majid al Futtaim Group, the development now forms The Waterfront City, a marina associated with a luxury residential complex.

In parallel with the operations of Dbayeh, the Council for Development and Reconstruction (CDR) relaunched studies for the realization of a land reclamation embankment between Borj Hammoud and Antelias, under the name of Linord, a real-estate company based on the Solidere model. Fierce competition over who would control the future backfilled lands took place between several potential investors and political players who established themselves during the civil war such as then Prime Minister Rafiq Hariri, then Interior Minister Michel el-Murr, and other local entrepreneurs. The project also gave rise to various mobilizations of opposition, notably on the part of municipalities such as that of Borj Hammoud, which feared the nuisances of installing a wastewater treatment plant, when there was already a marked increase in the accumulation of waste, north of Borj Hammoud. This “mountain” of waste was the main landfill in the agglomeration from 1991 to 1997 and extended into the sea over a surface area of nearly 40 ha, standing 42 meters high. The chronic combustion of waste spread harmful fumes and a stench over the city. This pile represented a new form of metabolic disruption and therefore an opportunity to create the reclamations of the Linord project. However, their stabilization and reprocessing would increase the costs of the project, particularly due to the proximity of the steep slopes of the submarine canyon forming the bordering segment of the Beirut River. With the downturn of the real-estate market in 1996-97 followed by the arrival of

President Lahoud, the project was abandoned. This episode shows that even if metabolic disturbance, i.e. the overflow of rubble and waste, offers opportunities for urban development, their feasibility remains constrained by the real-estate market and the circulation of urban capital.



The empty land on the reclamation project in Dbayeh in 2017 (Photo Eric Verdeil)

Accelerated Urbanization, Frenetic Consumption, Landfill Proliferation

The period from the 1990s to present day in Lebanon has seen unprecedented urban expansion (an increase of 80% between 1994 and 2013) at a rate far exceeding population growth.^[5] This urban sprawl goes hand in hand with an intensive use of natural resources for construction materials, largely taken from the mountains around Beirut. Much of the quarrying is illegal but tolerated, both because the construction sector's contribution to the Lebanese economy is deemed essential, but also because the quarry operators are protected by the corrupt political structure of the country, enabling them to sustain their activities. Increased demolitions of old buildings and excavations of new construction sites generated rubble that had to be disposed of. In 2006, Israeli bombs flattened 220 buildings in a 32-hectare neighbourhood in the heart of the southern suburbs of Beirut. As all destruction is an opportunity for growth

within this system, the rubble was deposited on the seafront, in an area called Costa Brava, south of the airport.

In parallel with the spiking rate of construction, Lebanon is also experiencing an exceptional boom in consumerism, causing a sharp increase in the volume of waste. This rise –in inorganic waste in particular– reflects the changing consumption habits of a hyper-urbanized and globalized population divided by growing social inequality: most of the goods are now imported and often manufactured abroad, from food to consumer products. In the region of Beirut and Mount Lebanon, the amount of municipal waste increased by 42% between 1999 and 2013, a rate much higher than the growth of the population. This boom of municipal waste fueled by goods consumption and associated discarding practices resulted in new coastal landfill projects.

The 2015 waste crisis worsened with the lack of a decision on an alternative for the treatment of municipal waste, thus forcing the government to find places to store it while reviving the Linord project which had been dormant for 17 years. In addition to this revival, Environment Minister Chehayeb aimed to create a 33.3 ha landfill between Borj Hammoud and Jdeideh. The soil of this site is composed of a mixture of sand and detritus from the nearby waste mountain which is now ironically considered non-polluting after having spread its pollution in the air, water, and soil for years.^[6] Chehayeb, who gave his name to the plan, was also Minister of the Environment in 1997 when he had overseen the closure of the Borj Hammoud dump and the supposedly temporary opening of the Naameh dump. Thus, the 2015 crisis re-excavates the memory of suspended projects.



Landfill in Borj Hammoud (Google Image 2021)

The Chehayeb plan also included turning the Costa Brava site, where rubble was first disposed of in 2006, into another landfill^[7]. Nevertheless, and despite the relative remoteness of the site from settlement quarters, the landfill has been strongly contested by the municipalities in the area as well as by environmental groups at large. It should be noted that the emergency construction of these two new landfills has given rise to numerous legal irregularities and exacerbated seawater pollution, as the dumping of waste began before the completion of the protective dykes and the installation of the insulating membranes planned to limit leakages.



Landfills and reclamation works in Costa Brava and Saida in 2021(Google Image)

Analyzing the large backfilling projects in Greater Beirut and Saida makes abundantly clear a strong connection between three impulses. On the one hand, we can see how ideas of modernity and regeneration were instrumental in the conquest of new land on the sea in early urban plans.

On the other, we have seen how the anticipation of rising land values drives endeavors to appropriate seaside lands; and finally, how instances of metabolic disruption provide the materials to backfill the sea on the chosen sites.

However, the variable temporalities of these metabolic impulses suggest two conclusive thoughts. A distinction is made between sudden shocks (violent destruction as in the case of the Israeli onslaught of 2006, and the overflow of waste in 2015) as opposed to a constant acceleration of urban construction and consumption generating waste and excavated material flows sustained over the long term. In these two types of temporalities, the intensification of consumption and the rejection of materials (the production of rubble) are directly correlated to the circulation of capital which, in the Lebanese context, comes essentially from abroad (emigration remittances, foreign investments) and directly feeds consumption and real-estate. The transport of rubble resulting from building dismantling and excavation works towards the urban periphery and on the seashore can be observed in many rapidly changing metropolises –particularly in Asia– and constitute a characteristic of the Anthropocene.^[8] Cities no longer grow on their ruins, as they had done for centuries, rather they export their ruins to the periphery. In Lebanon, this movement is accelerated by the inability to regulate the flow of waste through policies of volume reduction and recycling. In recent years, ad hoc solutions to the waste crisis have led to the construction of landfills that risk foreclosing other uses for those lands for the foreseeable future. The model of coastal landfill urbanization has only resulted in deserted plateaus and new mountains of rubbish overlooking the sea, wasting natural resources and disregarding basic principles of urbanity, until the foreseeable future.

^[1] This text synthesizes and updates a previously published article : Verdeil, É. (2017) 'Des déchets aux remblais: imaginaire aménageur, corruption et dérèglements métaboliques à Beyrouth', *Jadaliyya*, http://www.jadaliyya.com/pages/index/26876/des-d%C3%A9chets-aux-remblais_imaginaire-am%C3%A9nageur-corr.

^[2] Heynen, Nik, Maria Kaika, and Erik Swyngedouw, eds. *In the nature of cities: urban political ecology and the politics of urban metabolism*. Vol. 3. Taylor & Francis, 2006.

[3] Verdeil, Éric. *Beyrouth et ses urbanistes : une ville en plans (1946-1975)*. Beyrouth: Presses de l'IFPO, (2011). Available at: <http://books.openedition.org/ifpo/2101>.

[4] Awada, Fouad. *La gestion des services urbains à Beyrouth pendant la guerre : 1975-1985*. Talence: CEGET (Pratiques urbaines (Talence), ISSN 0992-3845 ; 5), p.120, (1998).

[5] Population assessments are unreliable and contradictory in Lebanon, because of the lack of a census. The Central administration for statistics estimated the resident population in the country in 1997 at 4,05 M and at 4,7 M in 2017 (without accounting most of the Syrian refugees massively settled in the country since 2012).

[6] Mansour, Fadi 'From Trash Dump to Dreamland: An Entangled History of Toxicity and Capital', *Jadaliyya*, (2018). Available at: <https://www.jadaliyya.com/Details/38158/From-Trash-to-Dreamland-An-Entangled-History-of-Toxicity-and-Capital>.

[7] Unlike other landfill sites, I am not aware of any planned coastal development projects there.

[8] Zalasiewicz, Jan, Waters, Colin and Williams, Mark, 'City-Strata of the Anthropocene', *Annales. Histoire, Sciences Sociales – English Edition*, 72(2), pp. 225–245, (2017). doi: [10.1017/ahsse.2019.11](https://doi.org/10.1017/ahsse.2019.11).