

Plastic possibilities

Contrasting the uses of plastic 'waste' in India

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Fig. 1. Prime Minister Narendra Modi's flagship 'Clean India' mission has been instrumental in India's national programme to remove and treat plastic waste.

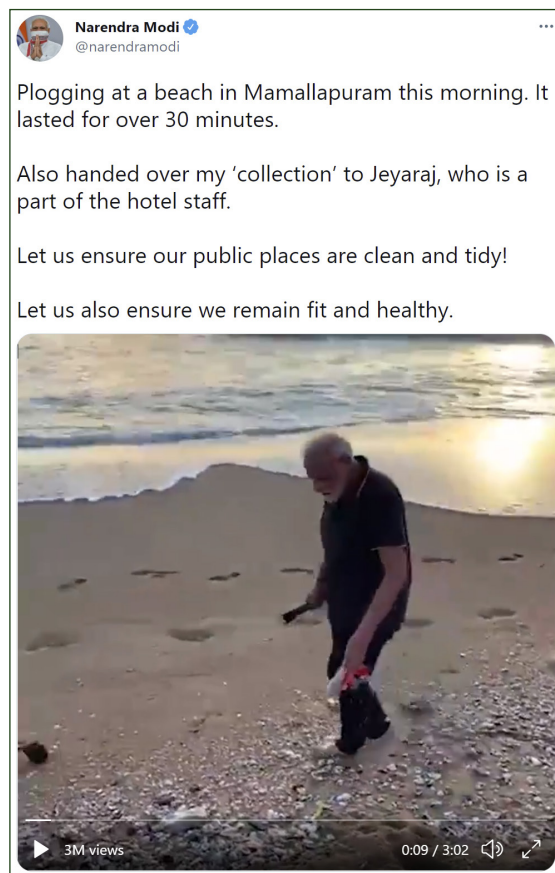
When India's Prime Minister Narendra Modi's social media handles posted a video of him 'plogging', picking up plastic garbage while jogging, one morning on a beach in Tamil Nadu, it included a message on civic duty – to ensure the country's 'public places are [kept] clean and tidy' – with Modi leading by example (Fig. 1). The Prime Ministerial gesture resonated with urban middle-class enthusiasm and anxieties about 'clean and tidy' environments (Baviskar 2011), which received promotion and practical templates under Modi's ongoing Swachh Bharat or 'Clean India' mission, inaugurated in 2014.

With substantial social media presence and mobilization (Jeffrey 2015), the mission calls upon citizens to take the 'cleanliness pledge' online, which includes 100 hours of mobilization a year, cleaning streets and public places, starting with one's neighbourhoods and workplaces. Citizens are encouraged to tag and nominate others, urging them to take up the 'cleanliness challenge'; as proof of successful participation towards cleaning India, it suffices to upload images of public places, watermarked 'before' and 'after', on one's registered account on the official Clean India website (Fig. 2).

Modi's social media handles liked, replied to or shared some of these citizen image-posts. The Prime Minister himself graced many street-cleaning drives in clean clothes, using a broom or other tool, bending down to pick up and sequester garbage with his own hands in a container. Photographers and paparazzi neatly capture these moments, and the images promptly circulate across social media (Figs 3 & 4).

While the Clean India mission is about citizen enrolment within certain practical (potentially exclusionary) templates of performance, it is also a form of (re)producing the 'public' sphere. Among other things (such as enacting space, citizenship and practical duties), it is an indictment of plastic's legitimate place. For example, discarded plastic wrappers, bottles and tumblers are deemed 'out of place' in public spaces (parks, pavements, beaches, roads), from where they need to be removed, sequestered, the act of containment having been invested with immense cultural and moral capital. On the other hand, the public do not mind the continued use of plastics in commodity packaging (which constitutes the most significant proportion of commercial plastic use in India), in building and architecture, automobiles and infrastructure (Fig. 9). Certain plastic products, 'low-hanging fruits' like single-use carrier bags, are subject to occasional bans in response to environmental critique (Pathak & Nichter 2019), but the overall trend is one of increasing plastic production and circulation (Gidwani & Corwin 2017).

Indeed, while the growing urban middle class – Modi and Clean India's most prominent political constituency – fuel an ever-increasing flux of plasticated retail consumption, their demands for 'world-class' urban spaces and services warrant efficient, accountable waste management and plastic-waste-free streets and beaches. Not incidentally, then, the practical and technocratic orchestration of municipal solid waste management (MSWM) – which includes plastic among other material discards – since 2014 (notably through a series of revised MSWM guidelines in 2016), has paved the way towards large-scale technological fixes. Policy makers have tended heavily towards privatization to ensure door-to-door waste collection (Fig. 5), street-cleaning, and centralized and segregated (low-calorie moist waste separated from dry high-calorie plastics) waste cir-



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ulation towards waste-to-energy (WTE) technologies. By 2015, India's Government had sanctioned 48 private WTE plants with a target of 100 by 2019 (Kornberg 2019), under public contracts with heavy subsidies (e.g. low-cost, long-term land leases, waste tipping fees, energy buying guarantees at potentially higher tariffs).

However, as citizen protests in various cities like Mumbai (Deshpande 2020) and Delhi (Demaria & Schindler 2016) have shown, the seemingly smart techno-fixes to sequester plastics are routinely breached. Plastics, despite careful attempts to keep them in place, trick their ways 'out' – in forms such as furans, fly-ash and leachates, which are difficult to capture, measure and thus challenging to build litigation upon. Plastic's molecular derivatives and compounds endanger not only already marginalized populations living near waste treatment plants (Fig. 6), but also, occasionally, the rich and the affluent (Doron & Jeffrey 2018).

Therefore, while Clean India and its ambitious large-scale practical technocratic engineering are not without problems, in practice they do generate new materialities, civic alliances and political societies. They perform the 'public' differently, in complex – perhaps unpredictable – ways. The totalizing technopolitical vision of Clean India may hog the limelight, with politicians, academics and the media continuing to write about it. However, here we critically and carefully analyse different plastic futures. We recount the story of domestic repurposing from the everyday life-worlds of Dey's parents in Kolkata, India, where different plastic objects – typically used packaging materials – assemble both mundane and uncanny socio-material realities. These are alternative, albeit small-scale, practical routines of plastic circulation, socio-cultural and financial reputation, typically existing in the interstices and the shadows of Clean India's grand narrative.



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Fig. 2. Clean India mission, swachhbharat.mygov.in (accessed, 12 January 2021).

Fig. 3. Residents accompany a Minister of State cleaning a public beach in Visakhapatnam, 8 November 2019.

Fig. 4. PM Modi launching the Clean India mission. Valmiki Basti, New Delhi.



OGD INDIA / CNR: 135126 ID: 148708

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However, these local circulation practices (a few of which we describe below) do nevertheless sequester plastic waste to some extent, delaying potentially toxic or polluting materials from joining the city's waste streams or escaping into its environments. Besides their environmental value, these plastic processes actualize unforeseen domestic relations and (re)produce socio-material hierarchies between people and things. They illustrate emergent forms of co-existence in active collaboration with plastic's materialities. In this respect, we echo Tsing's (2014, 2015) framing in which such more-than-human activities reflect a way of living amongst 'blasted landscapes'. Indeed, as more and more plastics continue to proliferate and persist across our shared worlds, we argue that stories like those from the senior Dey household may enable us to think and live different (plastic) futures. In keeping with Pink and Salazar's call that 'anthropologists ... become participants in processes of anticipating futures' (2017: 14), in these nexuses of practices we seek clues to what a mitigatory plastic future might look like.

Making plastic bags 'like new again'

Dey's mother does not easily throw away any 'kaajer jinish' (useful objects). No plastic object is put into the bin until every option for its value recovery has been explored, or possibilities for its reuse have been exhausted. Milk sachets, bottles, carrier bags and other packaging material, designated to be discarded after 'single-use', are instead retained in the household after consumption. They are meticulously washed with liquid soap, dried under the sun on the terrace – but not for too long – and stored in the house for several months. As such, some of the designated lofts, shelves and cupboards within this two-storey



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house in the fast-gentrifying peri-urban neighbourhood of Kolkata are full of carefully aggregated plastics. Some of these are pulled out of their storage spaces for sale to the *kabaadiwala* (the itinerant buyer of recyclable materials), who names his price per category or item, and carries away the objects after sale as per agreement. The other objects are used domestically through generative material reitera-



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tions. In any case, plastics are not sent directly into the municipal waste streams for incineration.

While the *kabaadiwala* evaluates materials based on their recyclability and particular exchange-value within the city's informal salvage-renewal networks, the systems of classification within the Dey household are differently worlded. Here, plastic objects are sorted according to their capacities for reuse, linked to material attributes (e.g. shape, size, thickness, texture, light reflectivity) or cultural imports (e.g. white colour and associations with purity, printed brand names.). Polypropylene takeaway boxes and thick high-density polyethylene (HDPE) carrier bags are refurbished and reused for sending out home-cooked food parcels to relatives and family friends. Carrier bags unsuitable for sale or for the above modes of social world-making – filthy, thin or crumpled carrier bags, for instance – are used as bin lining for wet kitchen waste and plate leftovers.

Certain takeaway boxes, whose shapes were specifically unsuitable for domestic food packaging, find alternative uses as flower pots on the terrace (Fig. 7). All these materials are segregated – based on their reuse potentials and other practicalities – and stored separately in different rooms, cupboards and shelves. As such, 'home' becomes a motley composite of 'bag *notun korar* room', 'PET [polyethylene terephthalate] *botoler* loft', 'milk sachet-er shelf', 'polythene bag-er cupboard' (with separate shelves for variants), and so on.

Plastics' storage shapes the material décor and spatial arrangements within the house, but they also animate intimate social relations. The carefully segregated aggregation of materials, conducted usually at the behest of Dey's mother, generates certain awkward domestic tensions and comic relief. Indeed, Dey's father – often his mother's helping hand – routinely complains of the extra work in tending to extensive plastic cleaning and repurposing, or expresses displeasure with the accumulation of plastic on shelves and in cupboards.

'*Barita plastic-er museum baniye rekhechhe*' (the home has turned into a plastic museum), he protests, frequently insisting that his wife lets these objects go, taking initiatives himself to summon the *kabaadiwala*. '*Egulo shob kaajer jinish*' (these are all useful things), is her usual riposte, stressing the different use-value of the objects and the sheer stupidity of throwing such valuable stuff away. These daily squabbles and plastic anecdotes, which animate the lives of the elderly couple, frequently become part of phone conversations with Dey – their only child living abroad. In the process of discussing plastic reuse, therefore, the everyday worlds of the inter-continental family and kinship are also informed, animated and practised.

If we analyse different processes, certain inventive socio-material mobilizations are also observed. For example, the engineering of plastic packaging for sharing home-cooked food involves an atypical combination of household objects and furniture as tools. Used carrier bags – especially in pristine white and thick HDPE – are smoothed. Laid out without creases along their original folds and left for weeks on the wooden planks underneath the heavy bed mattresses, these used, mildly crumpled bags recover some of the stability of their original form over time and sustained pressure. They become *notuner moton* – like new again, in the words of Dey's mother.

Furthermore, to secure neat packaging, the resmoothed, 'new again' bags are paired exclusively with rectangular-shaped takeaway containers, in which home-cooked food is secured for inter-domestic transit (Fig. 8). Takeaway boxes with rounded surfaces are avoided since they disrupt the desired aesthetic of pristine white and the neatly folded presentation of parallel lines, folds and edges. The particular combination of folding techniques and objects

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MUNNA DEY - HARAN DEY



Govandi Citizens @GovandiCell · 20 Aug 2020

Take action on it @PrakashJavdekar sir as u see the smoke is continuously flow 24hrs without stop , Industrial emissions in residential area. Plz shift it.

CC: @ @ @ @ @ControlDelhi @CPCB_OFFICIAL



Govandi Citizens @GovandiCell · 19 Jul 2020
Team @CPCB_OFFICIAL Please stop such #Hazard company which is dangerous for all livings.

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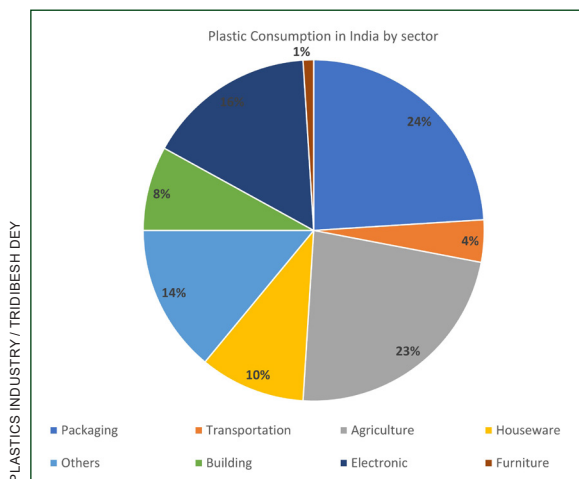


Fig. 5. Door-to-door waste collection in Ahmedabad, 2019.
Fig. 6. Residents of Deonar/Govandi, the site of Mumbai's largest waste treatment facility, mobilize over social media seeking support from India's Union Minister of Environment, Prakash Javdekar (accessed 10 September 2020).
Fig. 7. Plants in plastic pots. At Dey's parents' house in rapidly urbanizing south Kolkata.



Fig. 8. Cleaned and dried rectangular takeaway boxes stacked together on a store-room shelf.

Fig. 9. Plastics consumption by application in India in 2011. Data reproduced from the British Plastics Federation.



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with parallel edges goes beyond mere aesthetic aspiration, social care or cultural performances of purity. Such a material practical orchestration ensures that food will not spill inside bags or briefcases during transit – thus also safeguarding more immediate practical, financial interests. It would, therefore, appear that Dey's parents have identified particular domestically available objects with regard to their capacities, affordances and limits, mobilizing these in efficient, socio-culturally generative combinations.

Indeed, philosopher Manuel De Landa (2011) reminds us that the material capacities (or limits) of objects are specific and contextual. Rather than being posited as absolutes, these capacities emerge (De Landa refers to them as 'expressions') unexpectedly within particular circumstances and practical relations, configuring new processes, possibilities and socio-material relationalities. The use of heavy bed mattresses for smoothing used carrier bags, or the selective pairing of various material objects for aesthetic, socio-cultural and mundane considerations of care, highlights the actualization of initially unintended relations between things, practices and techniques.

Indeed, the mattress's weight – originally designed to hold it in place and offer firmness and comfort – and equal surface pressure are redeployed to realign polymeric strands in the crumpled carrier bag. The technique works most efficiently with thick-film HDPEs as they are exceptionally responsive to pressure and retain their form better than thinner, more flimsy varieties. Therefore, specific capacities of thick-film HDPE (as in responsiveness to sustained mattress pressure) are revealed too. Such a material combination (as indeed with the parallel container and wrapping film pairings) is also seen to be variously stabilized (e.g. through continued procuring and selective storage of polythene bags) to secure the repeatability of the process.

Alternative reputational networks

While we observe the emergence and systematization of diverse plastic processes, object relations, tools and circulation modes locally, these inventive relationalities con-

figure and fold into a wider social, economic and cultural relations domain. Although certain alternative reputational networks are constituted (which value the refurbished plastic objects differently than either industrial commercial systems or Clean India incineration programmes), albeit, at a small scale, the local inventions and circulations also reproduce certain socio-economic hegemonies.

For one, the 'new again' carrier bags help configure a localized cult for Dey's mother and her caring practices within the family groups. As she is a 'housewife' who is also physically prohibited by a severe case of rheumatoid arthritis alongside other bodily complications, it may be said that the plastic bags (together with cleaned and dried takeaway boxes) are instrumental in her reaching out to the outside world. They help her to rekindle and perform social relations. Mentions of her neat plastic packaging containing still-warm home-cooked food evoke notions of purity and care in the family WhatsApp chats, at times even drawing favourable comparisons with 'restaurant food'. They become talking points and serve as social references, complete with occasional moments of personal glory for Dey's mother. The refurbished plastic objects are, therefore, clearly valued within these reputational networks. Yet this is not simply due to industrially designed efficacy or commercial novelty of the plastic bags, but is substantially attributable to their domestically engineered renewal in acts of personalized care.

However, these alternative forms of socio-material appreciation depend, critically, on some of the features and accoutrements of middle-class upper-caste living in a rapidly gentrifying urban neighbourhood. For example, regular consumption and the continued influx of commodities into the household ensure that a wide range of plastic raw materials (from packaging, etc.) are available. Furthermore, the very possibility of inventive deployment of various household amenities and equipment (soap, terrace, mattress, storage space, etc.) also hinges on their presence. In effect, the greater the variety of objects and materials available, the more combinations are actualized (Barry 2005). All of these possibilities, therefore, seem to depend on a wider set of stabilized socio-economic relations. The making of the 'new', or the inventive networks of plastic sequestration and circulation, do not, then, totally 'denounce' – though neither do they quite reproduce – these wider political economic realities.

Indeed, as we have seen, the home-based plastic processes produce their own classification and graded material and processual hierarchies. However, these new socio-material relations often overlap with specific pre-existing practical modes of performing differences. For example, thin and crumpled, shabby-looking polythene bags (e.g. from purchasing fresh meat and fish), reused as bin lining for wet kitchen waste and plate leftovers, are left overnight, their mouths tied. They are then passed on the following morning to Manasa-da, the local waste collector – a Dalit man whom the housing association has long employed. Manasa-da works on a meagre wage drawn from individual household contributions – a nominal amount of Rs 10 (about £0.11) per household, per month. He does not usually object to handling these shabby and smelly sequestrations; the household easily assuages occasional protests by offering a nominal tip.

Manasa-da's muted labour and the local waste collection system not only encounter the less sophisticated aspects of plastic invention, they also enable the discarding of objects beyond the means or preferences of Dey's parents to reclaim and recover. Therefore, we can see how the local possibilities of producing social capital or practising material thriftiness are supported, at least partially, by a (problematic) system of undervaluing labour and securing acquiescence. Of course, we are alluding to a local form of

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Narendra Modi @narendramodi · 12 Oct 2019
 Plogging at a beach in Mamallapuram this morning. It lasted for over 30 minutes.

Also handed over my 'collection' to Jeyaraj, who is a part of the hotel staff.

Let us ensure our public places are clean and tidy!

Let us also ensure we remain fit and healthy.



16.9K 47.8K 164.5K

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of the hotel staff' (quoted from his tweet dated 12 October 2019 – Fig. 10). The Prime Minister's symbolic gesture renders visible the work of millions like Jeyaraj (and Manasa-da): waste-pickers, sorters, *kabaadiwalas*, cleaners and sweepers across Indi. These people routinely perform solid waste sequestration and processing but rarely receive favourable 'public' attention. However, the gesture of 'handing over' sequestered waste reproduces a practical hierarchy (together with other gendered caste hegemonies), which, under governmental waste governance policy and programmes, is entrenched further in more complex, large-scale and insidious ways. Indeed, the massive socio-cultural engineering and technopolitical vision of 'Clean India' aspire towards more centralized control and standardization of plastic waste circulation. In practice, this tends to favour large corporate firms working for profit under public contracts to manage waste and other urban infrastructural services (Shankar & Sahni 2018). While such a large-scale techno-fix generates undesirable living and breathing environments, especially for the marginalized communities (as seen above), the imposition of neoliberal professional orders in waste management threatens to displace traditional waste-labour networks and recycling enterprises, rendering the urban working poor (like Jariben, a plastic-picker featured in Fig. 11) even more vulnerable (Gidwani 2010; Luthra 2017).

Dey's parents' routinized domestic practices in Kolkata also serve to partially sequester, evaluate, process and circulate plastic materials, albeit across more localized networks. As we have seen, the material renewal and their redeployment assemble new legacies and particular relational possibilities. While the practical orchestration of such home-based invention and imitation unevenly maintain pre-existing political economies, caste relations and class hegemonies, not all cleaned and dried plastics are repurposed locally. Indeed, the extra cash obtained from the careful domestic stocking of plastic packaging for material exchange with the *kabaadiwala* constitutes a handy financial incentive for spendthrift middle-class families, like the senior Deys.

Sometimes, partial value recovery from these exchanges generates its own reputational networks and gendered domestic work legacies (Doron & Jeffrey 2018: 98-100). Thus, despite the socio-cultural values associated with the localized reuse and renewal of a limited number of packaging items, substantial quantities of plastics are still diverted in bulk to the city's material recovery and recycling networks. As such, the supply chains to these pre-existing economies are maintained. In these respects, the Deys' heterogeneous practices may, albeit at a small scale, have a mitigatory impact – environmentally and socio-economically – on the blasted plastic landscapes that serve as a backdrop to Modi's political performance. They enact a different plastic future.

Indeed, we focus on a relatively modest future but one which anthropologists, through close ethnographic attention, can begin to excavate and enact. These are futures that can serve as a basis for bolder speculations about future practices and relations that are carefully attuned to difference and are more radically inventive. That is to say: these plastic futures can begin to challenge existing hierarchies and inequalities. However, for this to happen, as Pink and Salazar (2017: 3-4) put it, anthropologists need to open their 'scholarship, practice, and intentions to other disciplines, techniques, and aspirations ... [in order] to bring to the study and making of futures an approach inflected by the ethical and participatory principles of anthropology'. These socio-materially enmeshed – at times, personal – relations, akin to (intra-/inter-)disciplinary kinships, the likes of which Pandian (2019) has recently written about, may actualize more radical plastic futures. ●



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Fig. 10. Narendra Modi after sequestration.

Fig. 11. Jariben, a freelance forager of plastic recyclables, carries her collection to the recycling broker after an early morning sortie in Ahmedabad, 2018.

practising and perpetuating the caste hierarchy, which continues to allocate low-paying and hazardous tasks to the socially outcast or the Dalits. As such, while plastic repurposing generates novel relational possibilities and socio-material configurations, these – at least the ones practised in the senior Dey household – are not straightforwardly innocent. They fold into, reproduce and depend critically upon other sites, bodies, (care) practices and (potentially problematic) relations.

Conclusion: Plastic futures

After about 30 minutes of (videotaped) plogging, Modi 'handed over [his] "collection" to Jeyaraj, who is a part