Plastic Waste in India:
A Political Economy and Critical Discourse Analysis

4129342

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Table of Contents

Abstract

Plastic waste is proliferating across India today, posing significant challenges to environmental health and ecologically rational development in the country. This problem is driven materially by political-economic processes related to neoliberal globalisation, and ideologically by discursive practices within a hegemonic plastics/waste coalition. The hegemonic coalition reproduces a pervasive plastics/waste orthodoxy that depoliticises the problem by disregarding its political-economic drivers and individualising responsibility for its genesis and remediation. These dynamics interact to naturalise plastics (discursively and materially) and normalise waste through end-of-pipe treatment or management approaches characteristic of neoliberal environmental governance. This dissertation moves beyond the orthodox explanations for the proliferation of plastic waste across India. It first establishes the problem of plastic waste in India, situates itself within the literature on waste and plastics, and outlines and adapts relevant social theories for analysing social/environmental problems. Next, it critically analyses the political economy of plastics, packaging and waste in India, and the discourse of the hegemonic coalition to identify the plastics/waste orthodoxy. The dialectical relationships of the material and the ideological are elaborated, and the dissertation concludes with a consideration of the implications of its findings for India's socio-environmental future.

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Abbreviations

AIPMA	All India Plastics Manufacturing Association
CDA	critical discourse analysis
CR	critical realism
FDI	foreign direct investment
GOI	Government of India
ICPE	Indian Centre for Plastics in the Environment
IPP	Indian plastics protagonists
MNCs	multinational corporations
MSW	municipal solid waste
NEG	neoliberal environmental governance
NGO	non-governmental organisation
PE	political economy
PEc	political-economic
PET	polyethylene terphthalate
PoI	President of India
PP	polypropylene
PVC	polyvinyl chloride
RIL	Reliance Industries Limited
TFCs	transnational food corporations
TL	Toxics Link
WM	waste management

Chapter 1 Introduction

While helping to run an environmental education programme for tourists in Ladakh, India, over the course of six summers (2004-2009), a common refrain I heard was shock about how much plastic trash there is on the trekking trails, and by the behaviour of guides, other locals, and some tourists, who seem to carelessly throw it anywhere. This was often followed by general expressions of disgust at the plastic rubbish problem in India, caused by the 'wasteful' behaviour of Indians. I had noticed during my own limited experience in the country, that each year I returned, there seemed to be increasing quantities of goods packaged in plastic, increasing consumption of the same, and ultimately as a consequence, more plastic waste accumulating. Yet, I doubted the veracity of both the conventional analysis of the problem ('carelessness', 'urbanisation', 'consumer desires') and the efficacy of the proffered solutions ('more rubbish bins', 'better collection services', 'educating people about littering'). Sophisticated analysis remained elusive, leaving the proximate and apolitical relatively uncontested.

This dissertation is my attempt to move outside this convention and provide more complex answers to the question, 'why is plastic waste proliferating across India?' Answering this question provides a window into much larger and more complex issues and processes occurring in India today. Exploring these components necessarily requires trans-disciplinarity, touching on political science, sociology, environmental studies, cultural studies, and psychology, among others. I do not pretend to offer a comprehensive explanation – indeed I doubt the possibility of such – but will hopefully identify some of the most important components that may stimulate further research.

I will approach this question by situating it within the very old materialist/idealist debate within philosophy and social sciences and attempt to answer it by way of sub-questions: 'what are the material/structural drivers contributing to increased plastics[1] production, consumption and waste in India?'; 'what are the ideological drivers revealed by discursive practices within a hegemonic plastics coalition?'; and how do the two (material and ideological) interact to contribute to the proliferation of plastic waste across India?'

1.1 Outline of the Dissertation

I will begin with a chapter (2) reviewing the literature on waste and plastics relevant to my focus in this dissertation, identifying what has already been done in this field, and what unique contribution I intend to make. That will be followed by a chapter (3) covering

[1] 'Plastics' and 'plastic' will be used interchangeably, referring to a complex variety of hydrocarbon polymers (Andrady 2003). Specific plastic types will be named where appropriate.

closely related theories, concepts and approaches that will inform the remainder of the dissertation – including materialism versus idealism; ideology, orthodoxy, and hegemony; critical realism; and critical discourse analysis – and specifically how they bear on this topic and how/why I intend to employ them. I will explain how critical realism in particular calls for a dual approach in researching socio-environmental questions such as mine, that is, non-discursive as well as discursive analysis and their inter-relations.

In the following two chapters I approach the main question via the sub-questions. The first of these chapters (4) will analyse what I term the political economy (PE hereafter) of plastics, which looks at some of the main structural forces that propel the proliferation of plastics in India today. These include plastics both as a primary object of industrial production itself, but as importantly a secondary packaging feature of lateral industries and products. This will also require an exploration of the PE of consumerism and its class elements in India. These factors will be shown to involve combinations of both endogenous and exogenous drivers (e.g. the Indian plastics industry, and the global waste trade), related to India's by-now deep integration into global economic circuits.

The second main chapter (5) will subject the discourse of the plastics industry and associated government agencies to critical analysis, in order to interpret the ideological significance of the messages and situate them within contemporary debates surrounding neoliberal environmental governance (NEG hereafter). I will also show the issue of plastic waste in India to exemplify an instance of hegemony, where certain orthodox assumptions about waste, plastics and environmental management are broadly shared in society, effecting a normalisation of the problem and entrenchment of the power of its dominant protagonists.

In the conclusion (Chapter 6) I will consider the implications of the dissertation's findings, and the potentially intractable – if not inevitable – conundrum of plastic waste in the context of current political-economic (PEc hereafter) realities. I will also consider the possibility of PEc forces and material environmental-health problems being 'made' 'real' in part through discursive practices, and vice-versa.

1.2 Explaining the Focus

Plastics consumption and waste are indeed growing at a phenomenal rate in India today, exceeding even impressive GDP growth of 6-8 percent per annum (CRISIL n.d.; CIPET 2008; Plastindia Foundation 2009). According to some projections, by 2030 the total consumption of plastics in India will increase about six-fold to reach 20,000 kilotonnes (kt) (Mutha et al. 2006). Over 5,400 tonnes of plastic waste were being generated daily in

2000-2001, and the percentage of plastics in municipal solid waste (MSW) increased from 0.7 percent in 1971 to 4 percent in 1995 (ibid.). By 2030 it is projected that plastic waste will increase 10 times from 2000-2001 levels, totalling some 18,800 kt (ibid.). A substantial one third of all plastics manufactured in India are used in packaging, and two thirds of that are for food and beverage packing (ICPE n.d.; Mutha et al. 2006). Importantly, the total amounts of plastic waste generated in India are likely to be far greater, since the above figures refer only to 'downstream' municipal waste, which accounts for approximately less than one in every seventy tonnes of total waste generated 'upstream' in manufacturing processes (Rogers 2007; Leonard 2010: 186-87).

But why do I focus on plastics, to the exclusion of the many other materials that constitute MSW in India? First, though there are many competing definitions of 'waste' (see e.g. Friedman 2009), the one I adopt for the purposes of this project is *material that is not meaningfully or safely re-circulated (or in Marxian terms re-metabolised) through either biological or social circuits*. In India, a widespread informal waste-picker economy collects an impressive 47 percent of plastics for 'recycling' as compared to many other countries (though this is expected to decline to 35 percent by 2030 (Mutha et al. 2006)). Nevertheless, the above statistics on proliferating plastic waste in India confirm casual observations that many kinds of plastics are simply economically unattractive to waste-pickers, who assiduously collect other materials (Narayan 2001; Chintan 2006; Chikarmane 2010). Plastic waste is material that finds no place in what has otherwise traditionally been an incredibly resourceful, thrifty economy (Edwards and Kellet 2000). On a global level, the inability of society or nature to re-metabolise plastics is most starkly evidenced in the great 'patches' of plastic waste that have been discovered in gyres of the Pacific (Murray and Andrady 2003; Weisman 2007; Marks and Howden 2008; Cumming 2010) Atlantic (Connor 2010; Melia 2010) and Indian (Bongiorno 2010) oceans.

Furthermore, plastics are only recyclable to a limited extent, and not without detrimental environmental consequences. Plastics recycling is energy intensive and polluting, and fraught with "inherent technical limits" to do with loss of "infrangible flexibility" and high sensitivity to contamination occurring when different resin types are mixed (Rogers 2004: 177-78; cf. Denison 1997; IPTF 2002). Critics have argued that the existence of institutionalised recycling collection services, counter-intuitively, does not "minimize the creation of discards" because they leave "mass production and consumption unaltered and even encouraged" (Rogers 2004: 176) or "revalorize[] the basic premises of material consumption and massive waste" (Luke 1993: 170), instead of challenging those

premises. In other words, plastics cannot be infinitely recycled, recycling has environmental contradictions of its own, and recycling may spur greater production and consumption if it shifts attention from issues of disposability[2]. These limitations, of course, apply equally to the Indian context (Down to Earth 2000; Agarwal et al. 2002; Jamwal 2002).

Second, related to the issue of safety, plastics (to varying degrees) inherently pose environmental-health challenges throughout their lifecycle in ways that do not characterise other materials to the same extent or in the same manner. After the limits of recycling are exhausted, plastics must ultimately be dealt with otherwise through various strategies of physical relocation/concentration, or chemical transformation and dispersal. The latter processes characterise plastics combustion, whether by open trash burning (as is done across India millions of times each day), or by incineration. In either case, the chemical constituents of plastics create toxic[3] air emissions and ash (Thornton 2000; GAIA 2008, 2009; Gullett et al. 2001; Lemieux et al. 2004; Sidhu et al. 2005). Combustion of polyvinyl chloride (PVC) plastic waste releases dioxins and furans, the most toxic persistent organic chemicals known (Colborn et al. 1997; Kielhorn et al. 2000; Thornton 2000). The former processes characterise variations on dumping, from dispersed 'littering' to concentration in landfills that are rapidly reaching or exceeding capacity (Sethi 2006), each with its own environmental-health challenges[4]. Again, following my definition of waste above, because none of these methods can be considered a 'safe' re-metabolisation of matter, combustion and geographic relocation of plastics also constitute 'waste'.

By focussing on plastics, I do not imply that other constituents of MSW are unproblematic, or that if not for plastics, there would be no waste problem. Rather, my focus stems from the contention that this is a particularly problematic material which poses significant challenges to ecologically rational development in India, and focussing on it allows for a more precise analysis.

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[2] This idea will be further explored in Chapter 5, section 5.2.2

[3] Following Hancock (2003: 107), the term 'toxic' here denotes the specific legal meaning of 'harm-causing'.

[4] These include, among others: exacerbating and even causing urban floods by clogging drainage (occurring for example in the devastating Mumbai floods of 2005 (Talwar 2005)); creating mosquito-breeding stagnant water environments; suffocating rivers and other waterbodies (The Hindu 2010); interfering with ploughing and blockage of soil drainage when it accumulates in agricultural fields; killing or debilitating livestock when they ingest it (Edwards and Kellett 2000; Krulwich and Goldstien 2000; Chintan 2006; Clapp 2010); when accumulated in landfills, contributing to: terrible and often health-impairing stenches; proliferation of vermin; toxic leachate that pollutes water tables and streams, etc. (Rootes 2009).

Chapter 2 Review of the Literature on Waste and Plastics

To review the literature on waste and plastics is a potentially monumental task, as numerous shelves of academic libraries are dedicated to the subjects. As such, my review in this section will necessarily be very selective, focussing on the tracks within the literature relevant to my topic. I will consider works both general, and specific to India, noting the broad themes they have covered, gaps they have (or have not) filled, and how this dissertation fits within and adds to the literature.

2.1 Plastics/Waste: Technical and Political

Both the technical, and the cultural and political aspects of plastics/waste have been addressed in the literature, though the relative emphasis placed on these aspects has varied widely. On the technical side, Tammemagi's *The Waste Crisis* (1999) and Andrady's edited volume *Plastics and the Environment* (2007) stand out. In their technical focus, these works cover important aspects of the physical and chemical challenges associated with plastics/waste, but tend to take waste for grated by focusing on end-of-pipe treatments. They also adopt, either implicitly or explicitly, notably apolitical explanations for the existence of the problems, if explanations are forthcoming at all.

In contrast with a techno-centric view, a number of studies have strived to politicise plastics/waste. Those treating deleterious health ramifications of plastics (especially PVC) and other petrochemicals have done so by highlighting how issues such as corporate power and social conflicts intimately underscore 'mere' health problems (e.g. Colborn et al. 1997; Thornton 2000; Markowitz and Rosner 2002). The importance of *preventing* rather than treating waste by changing not just production processes but rethinking materials 'needs' has been emphasised at least since the WWF's 1991 *Getting at the Source*, though arguably it remains marginal to mainstream waste treatment approaches. Others have situated plastics/waste within social and cultural histories of consumerism, showing the profound influence of PEc drivers in moulding demand, insinuating disposable packaged products throughout society, and (mostly successfully) mounting legal and political challenges to anti-packaging activism. In Chapter 4, I will address literature on the PE of consumerism that critiques neoclassical models of 'consumer sovereignty' and how that relates to the issue of plastic waste in India. With respect to the significance of these processes to waste and plastics in the U.S., three books are noteworthy: Strasser's (1999) 'social history of trash', Royte's

Garbage Land (2005), and Rogers' *Gone Tomorrow* (2004). The latter work, in particular, remains the most trenchant book-length study of what can be termed a PE of waste, including an illuminating section on the intertwined histories of capitalist manufacturing, marketing, and the entrenchment of disposable plastics packaging within U.S. society. Two other cultural histories of plastics in the U.S. published in the mid-1990s (Meikle 1995; Fenichell 1997) also considered these kinds of connections, but briefly and superficially. Debates about the nature and extent (or existence at all) of a 'waste crisis', and proposals to address it, have recently been aired in Friedman (2009).

Within academic journals, the PEc approach to waste has been most consistently treated in the pages of *Capitalism, Nature, Socialism* – where waste is theorised (with slight variations) as intrinsic, if not endemic, to capitalism (e.g. Horton 1995; de Kadt 1999; Soper 2003; Luke 2006; Cooper 2009) – and a recent special issue of *Environmental Politics* on waste contestations (Rootes 2009). Significant articles along similar lines by Luke (1993), O'Brien (1999), and Rogers (2007) have appeared randomly in other journals. The majority of this work has been distinctly West-centric, but I will clarify in Chapter 5 its relevance to the situation in India today.

2.2 Politics of Waste in the South/India

The most prominent work on plastics in India – Edwards and Kellet's *Life in Plastic* (2000) – also combines the technical with the political in apprehending the 'plastics plague', even if the spectrum of PEc drivers they consider is somewhat circumscribed. The politics of waste has also begun to be considered in other non-Western contexts. Njeru's (2006) political ecology of plastic bag waste in Nairobi maps the local politics of one type of plastic waste (carrier bags), but does not situate plastic waste in general within a PE of consumption. Narayan's (2001) MSc Thesis on plastic bag and polyethylene terphthalate (PET) waste in India looks at government policies related to managing plastics waste and preventing litter, and 'management' of growing plastics consumption but, problematically, fails to address either PEc or ideological aspects driving the problem, focussing exclusively on the consumer, disposal end of the materials cycle.

2.3 Plastics/Waste and Distancing/Distancing and Plastics/Waste

As will be shown in Chapter 5, the industrial West with its relatively litter-free streets, is taken in the orthodox waste discourse as an exemplar to be replicated on Indian soil in the progression towards an eventually 'clean' and ecologically 'weightless' economy

(Reddy and George 2009). Yet it is widely demonstrated that the West continues to far outpace the rest of the world in per capita and total volume of waste generation (UNEP/GRID-Arendal 2004; Worldwatch Institute 2004; Brown 2006; EPA 2007; Leonard 2010). Numerous authors have investigated this seeming paradox. Commoner's 1971 monograph, explaining the 'second law of ecology' – 'everything must go somewhere' – was one of the earliest, and arguably still one of the most influential (Egan 2002, 2009). In his economic-anthropological study of industrial society vis-à-vis tribal societies, Bodley (1985) coined the term 'ghost acres' to challenge the widespread presumption of superior ecological efficiency and rationality of the former societal type. A number of influential works built on these insights in the early 1990s, scrutinising modern technology's tendency to produce a "[temporal, spatial and personal] non-intersection between advantages that are privately consumable and disadvantages that have to be borne collectively" (Ullrich 1992: 283); dissecting the global environmental and social costs/'footprints' of the consumer society (Durning 1992; Rees 1992; Martinez-Alier 1995; Redclift 1996); and perhaps most notably in Beck's *Risk Society* (1992), establishing the systematic – if 'low-level' – dispersal of harm as utterly constitutive of capitalist modernity. Foster (1999) adapted Marx's theories to explain the severe environmental consequences, including mountains of waste, precipitated by capitalism's 'metabolic rifts'. Such concerns continued throughout the 2000s as the breadth, speed and severity of global environmental change magnified. Van Loon (2002) applied Beck's theories provocatively to the waste crisis. Princen (2002) and Clapp (2002) explicated the conjuncture of a high consumerist society and proximate 'cleanliness' with 'shading and distancing' (i.e. exporting) the full costs, including waste. Dauvergne (2008) described the same processes with the metaphor of consumption's 'shadows'. The exporting of waste and emissions by wealthy countries has posed fundamental challenges to theories of 'ecological modernisation' or 'dematerialisation' (Sachs 1993; Martinez-Alier 1995; York and Rosa 2003; Jackson 2009; Mombiot 2009).

Related to this literature is work drawing mutually reinforcing relationships between certain aspects of economic globalisation – e.g. the disintegration of local economies, the 'metabolic rift' effectuated by increasing distanciation of production and consumption – and plastics packaging specifically, which both facilitates these effects and is facilitated and propelled by them in turn (Imhoff 2005: 17-19; Clapp 2002; Lang and Barling 2007). Increasing volumes of waste, and of packaging's proportion of waste, is one inexorable result of this process (Sachs 1993).

2.4 Injustice and Plastics/Waste

While Beck (1992: 36) memorably observed that "Poverty is hierarchical, smog is democratic" he also emphasised in *Risk Society* that this phenomenon has not nullified inequitable distribution of harm along lines of class power. This concern, of wealth and class privilege offering degrees of separation from the worst effects of pollution, and the disproportionate share of polluting industries locating in economically and politically marginalised communities has been advanced in literature on 'environmental racism/injustice' (Girdner and Smith 2002; Hofrichter 2002; Bullard 2005; Newell 2005). The politics, and injustices, of international waste trading, specifically the export of waste from North to South, have been detailed in Clapp (2001) and Pellow (2007). Some studies have investigated environmental injustice aspects of plastics/waste in India, showing how the negative environmental-health effects impact primarily and directly upon the poor. This is the case at the plastics factories (Bruno 1995), in the open garbage burning and incineration, and at the gargantuan landfills on the outskirts of cities where families of waste-pickers are the ones most directly exposed to toxic emissions from perpetual combustion of plastics, and disease spread by vectors nurtured in plastic habitats (Chintan 2006; Sethi 2006). A recent book by Gill (2010) on 'plastics and poverty' in India recognises the environmental injustice component, but focuses principally on economic injustices suffered by waste-pickers within the waste trade (Chikarmane 2010). While not a PE of plastics or waste *per se*, the book is an important contribution to understanding 'rubbish inequities', which will be key to any future political *ecologies* of plastics/waste in India.

2.5 Discourse Analyses?

The role of discourse in waste conflicts, in sustaining material and ideological power relations, and reproducing plastics/waste has received comparatively little attention. Historical and contemporary discourse analyses of the U.S. industry in Rogers (2004, 2007), Clapp and Swanston (2009), Cooper (2009) and Clapp (2010) are significant exceptions to this neglect. Similar analysis of emerging, non-Western industrial powers like India are largely lacking, apart from certain sections in Edwards and Kellet (2000). Here, however, the discourse of the Indian plastics industry and the Government of India (GOI), is not subjected to social theorisation, as with Clapp (2010), where the discursive tactics of the U.S. industry are situated and analysed within relevant theories of NEG.

2.6 The Contribution

Amidst all this, what do I hope this dissertation will contribute to the literature? First, it will chart out a more complex PE of plastics/waste in a non-Western, 'developing' country context than has thus far been attempted. It will draw explicit connections between plastic waste specifically and momentous changes (e.g. in consumerism, retailing, marketing) associated with neoliberal globalisation in India today. Second, drawing on relevant critical social theories, it will analyse the ideological aspects of the plastic waste issue, which has hitherto been done to a limited extent and with a clear Western focus. These pursuits will be made in the quest to provide more complex answers to the dissertation's main question.

Chapter 3 Critical Theories, Concepts, and Approaches

3.1 Introduction: Material, Ideational, Dialectical

In this chapter, I will introduce and describe some of the social theories and approaches that will inform my analysis of the proliferation of plastic waste in India. Tackling a socio-environmental issue such as this necessitates an engagement with one of the fundamental intellectual debates that "structures Western philosophy from its very inception", namely "the opposition between idealism and materialism" (Hawkes 2003: 20). To one degree or another, all of the theories and approaches I describe below grapple, at their core, with this debate. I aim to show how the issue of plastic waste also turns on this debate, and how consideration of 'both sides' (though certainly it is more complicated than a simple binary) is, to my mind, imperative. Since ideological and material influences are inextricable, I will focus on syntheses that theorists have offered, and how this dissertation itself aspires to a 'synthetic' explanation of a 'synthetic' problem. As I reviewed in the last chapter, studies that place undue explanatory power with one or the other aspects are ultimately lopsided, even if they contribute important insights. According to Hawkes (ibid.), "The tendency [ ] to reduce the opposition between ideas and matter to one of its elements is [ ] as old as Western philosophy itself". The debate centres around the relative priorities assigned to – and relationships between – what has been described as 'transitive knowledge' (the ideal, "embodied in theories, practices, discourses and texts" (Joseph and Roberts 2004: 2)) and 'intransitive' 'reality' (the material, a "mind-independent" world (ibid.)).

For reasons of brevity, I will focus on the 'dialectic' synthesis as propounded by Hegel, but especially Marx, whose later work:

> abolishes the opposition between the ideal and the material, by insisting that these spheres form a totality …. the emphasis on the totality identifies false consciousness with the illusion that either ideas or matter is logically prior to, or causally determining of, the other" (Hawkes 2003: 92).

This dialectical view, or the 'interpenetration of opposites', is an important theoretical precursor to later attempts at methodological syntheses. Scholte, for example, argues that a common shortcoming of social scientific enquiries is a failure to situate them within, and adopt an explicit stance on, this old theoretical debate. He contrasts methodologically idealist or materialist conceptions of 'globalisation' with his own preferred "eclectic approach" which:

> treats both concrete and mental circumstances as important drivers and shapers of globalization …. the ideational and material aspects of globalization are held to be co-determining, such that each significantly moulds the other (Scholte 2005: 21).

The dialectical, co-determining, concept is also fundamental to later theories of 'critical realism', which I will return to later in this chapter.

3.2 Ideology, Orthodoxy and Hegemony

Sunderlin (2003: 16) promotes an "inclusive" notion of ideology "in the sense of referring not just to the worldviews of dominant groups but also to those of dominated or subordinate groups" and which is therefore "nonpejorative and neutral". As such, "we all have 'ideology'" (ibid.). Sunderlin recognises that this runs contrary to the classical concept of ideology within social sciences. Ryan (2010: 40-41) defines this as "ruling ideas" that "reinforce the power of the ruling group by making their rule or their claim on social wealth seem natural, legitimate, and uncontestable". Van Dijk (1998), while conceptualising ideologies similarly to Sunderlin as the "'worldviews' that constitute 'social cognition'" (Wodak and Meyer 2001: 8), nevertheless also emphasises a distinct class power element with qualifiers like 'dominant' or 'ruling' ideologies. Fairclough is most explicit in retention of the classical view, and rejection of an ecumenical one like Sunderlin's. "Ideologies", he states, are:

> representations of aspects of the world which can be shown to contribute to establishing, maintaining and changing social relations of power, domination and exploitation. This 'critical' view of ideology [sees] it as a modality of power… (Fairclough 2003: 9).

To Hawkes (2003: 8), taking a Marxist dialectical stance, 'ideological' also refers to 'false' claims that either ideas or matter *determine* one another, rather than forming a "mutually definitive binary opposition". He objects to the "materialist relativism" of postmodernism which is reluctant to acknowledge the "possibility of identifying any mode of thought as systematically false or 'ideological'", implicitly adopting a realist belief in the ability to adjudicate between the veracity of competing truth claims. Ideology, for Hawkes, is precisely "powerful and determined modes of thought that seek to obscure [ ] comprehension" of such modes (ibid.: 14).

For both Hawkes and Fairclough, the crucial feature of ideology from a critical perspective is the naturalisation of status quo class and power relations, and dominant representations of reality. Fairclough (2001: 134) sees discourse about the 'inevitability' of contemporary economic changes, for example, as "an important legitimizing part of

the new social order" (ibid.: 134). This critical sense of ideology closely parallels Bourdieu's notion of orthodoxies – dominant explanations of social problems that are depoliticising insofar as they locate the causes of the problems "internally" to the victims, and in the "local present" (Gruffydd Jones 2006: 7), disregarding historical and contemporary PEc drivers. As such, orthodoxies are mis-diagnoses, which have important negative implications for remedial interventions. This is highly relevant to the case of plastic waste in India, where a number of assumptions about both plastics and waste are naturalized, structural drivers ignored, and interventions therefore of inherently limited efficacy. Indeed, as I will argue in Chapter 5, interventions based on orthodox mis-diagnoses actually perpetuate the very problem they purport to solve.

Dominant ideology and orthodoxy are key components of the Gramscian concept of hegemony, which is particularly relevant to the study of socio-environmental problems such as that of plastic waste in India. Fairclough (2003: 55) defines hegemony as:

> …a way of conceptualizing power which amongst other things emphasizes how power depends upon achieving consent or at least acquiescence rather than just having the resources to use force, and the importance of ideology in sustaining relations of power.

Hegemony, like orthodoxy, implies "a particular social structuring of semiotic difference [that becomes] part of the legitimizing common sense" but also refers to the ways that orthodoxies function to "sustain[] relations of domination" (Fairclough 2001: 124). Hegemony is also related to the formation what Gramsci termed the 'historical bloc', or 'hegemonic coalition', which provides the "basis of consent for a certain social order, in which the hegemony of a dominant class is created and re-created in a web of institutions, social relations, and ideas" (Robinson 2005: 572). Hegemonic coalitions are led by politically or economically dominant classes or actors, and in the case of plastics in India, I identify these as the plastics industry (including related companies which package their products in plastics) and certain supportive government agencies, what I will refer to as the 'Indian plastics protagonists' (IPP hereafter). Importantly, hegemonic coalitions include critics of the dominant class, whose criticisms are however accommodated through compromises "within certain limits" (ibid.) and 'alliances' that "deflect more radical challenges" and help "to shore up the legitimacy of the hegemonic bloc" (Levy 1997: 127; cf. Beck 1992: 23)[5]. I will apply these concepts to the issue of

[5] That there are in fact 'more radical challenges', termed counter-hegemonic, is another important aspect of hegemony. Due to space constraints, I will not be able to discuss counter-hegemonic discourse/action in the case of plastics/waste in India, though it should be noted that such exists (e.g. Jayaraman 2003).

plastic waste in India in Chapter 5.

3.3 Critical Realism

'Critical realism' (CR), a dialectical philosophy first elaborated by Bhaskar (2008 [1975]), offers a theoretical 'middle-ground', accepting the impossibility of a non-discursive access to reality, but positing the existence of pre-discursive 'reality/ies' nonetheless. According to Joseph and Roberts (2004: 2):

> CR argues that [ ] transitive knowledge is socially and historically located and engendered. However, unlike post-modernism and some forms of discourse theory, critical realism maintains that there is also an intransitive world 'outside the text'….

CR is, fundamentally, supposed to be a practical alternative to the nihilism of hard-constructivism/relativism, offering the possibility of "distinguishing better from worse explanations" (Sayer, quoted in Neumann 2005: 48) while recognizing that all explanations are ultimately representational and that, "…our models of nature can neither be naively accepted as objective reality divorced from social power relations, nor as merely an illusion produced through discourse" (Neumann 2005: 48; cf. Joseph and Roberts 2004; Robbins 2004; Gruffydd Jones 2003; 2006).

I adopt a CR stance on the topic at hand – plastic waste – in a couple of ways. First, I consider plastics a 'real' (intransitive) problem for environmental health. At the same time, I recognise that the nature of the problem – even its existence – is discursively disputed, and that my stance is mediated through textual information that is necessarily partial, representational, *transitive*. Second, in an attempt to avoid the 'ideological' or 'false' claim of either idealist or materialist determinism, I concur that, "a better approach would be to think of the real and discourse as complementary, mutually implicated and negotiable" (Joseph and Roberts 2004: 10). As such, I take a CR perspective that avers the existence of 'real' PE forces, structures, and processes underpinning and reproducing the plastics waste problem, while recognising that these can be said to be 'made' real in part through discursive practices. For example, trade liberalization, foreign direct investment (FDI) and other PEc factors I examine in Chapter 4 are material processes that produce material effects, but they emerge through the transitive practices and struggles of human politics, some of which I interrogate in Chapter 5. In other words, they are both real *and* constructed (cf. Gruffydd Jones 2006: 42). While I present both aspects in separate chapters, this is simply a heuristic tool to aid in 'seeing' the problem, and not intended to indicate discrete categories.

3.4 (Environmental) Critical Discourse Analysis

Critical discourse analysis (CDA) is an approach to understanding or exposing hegemonic ideological 'forms'. CDA accordingly has a normative aim of "providing a scientific basis for a critical questioning of social life in moral and political terms, e.g. in terms of social justice and power" (Fairclough 2003: 15), challenging discourse which "sustains relations of domination" (Fairclough 2001: 124; cf. van Dijk 2008: 7). In my case, in addition to concern with the role of discourse in sustaining 'relations of domination', my normative framework extends to a 'critical questioning' of its role in reproducing environmental-health problems, and as such I might characterise my project as a form of 'environmental CDA'. I will try to 'read' elite ideologies through analysing the discourse of the IPP.

3.4.1 Incorporating the Material

"Environmental discourses", writes Mels (2009: 391) are "simultaneously a guiding framework for and outcome of the institutional structures and material practices that make possible the reproduction of the conditions for capital accumulation". True to its dialectical nature, CR is intimately aware of the importance of discourse and ideology in shaping and refracting the intransitive world, but does not therefore "shelve[] any reference to an extra-discursive world" (ibid.). Applying this CR insight to CDA, Fairclough, Jessop and Sayer (2004: 23) argue that "it may be necessary or appropriate to supplement CDA through more concrete-complex analyses of extra-discursive domains". Failure to do so – e.g. constructivist over-emphasis on semiosis – is "bound to lead to an incomplete account of social causation…" (ibid.).

It is for that reason that I have chosen to research the question of proliferating plastic waste in India through a consideration of its (inter-related) material (PEc) *and* ideological components. Though I have stressed that these are closely, and arguably inextricably, co-determining, I agree with Mels (2009: 391) that this does not suggest that "discourses and their regulatory mechanisms stand in any seamless, functional relationship with accumulation systems". Instead, the fluxes between the material and the ideational "tend to be contextual, contingent, politicised, contradictory, and highly negotiated" (ibid.). CR, as my theoretical guide, will combine a non-discursive approach (Chapter 4) with a discursive approach (Chapter 5), "in order to enhance a dialectical emancipatory critique" (Joseph and Roberts 2004: 7).

Chapter 4 Political Economy of Plastics, Packaging and Waste

As forecast in the Introduction, in this chapter I aim to analyse the PE of plastic waste in India. By this term, I explicitly refer to the problem of such waste *not* as an agent-less, 'natural' economic phenomenon endemic to 'modernity', but one that is in fact profoundly underscored by *political* processes and decisions. India is undergoing dramatic transformations (many of which are increasing plastics consumption and waste), particularly under the processes of 'globalisation' or trade liberalisation, global market integration and concentration of private capital, but these processes are themselves far from 'natural' or 'spontaneous' or equally dispersed across society, as they are often portrayed by their votaries (see Chapter 5). Though a comprehensive map of the problem is far beyond the scope of this brief examination, in this chapter I will identify some of the key nodes in the "complex assemblages" (Rocheleau 2008) materially reproducing plastics waste in India which can serve as guides for more extensive future treatments. I will respond to the question, 'what are the PEc drivers leading to the increased presence of plastics consumption and waste in India today?'

4.1 Plastics and Packaging Industries vis-à-vis the State

A mutually supportive, powerful state-industry hegemonic bloc I term the IPP occupies a central place in the explanation of the problem of proliferating plastic waste. Supporting and promoting the growth of a petrochemical industry has been a consistent priority of central government industrialisation planning enshrined in 'five-year plans' since independence, particularly since the 1991 embrace of economic liberalisation/globalisation (Edwards and Kellett 2000; GOI 2007). In the 7th five-year plan of the 1980s, for instance, the government sanctioned an investment of 30,000 crore rupees (~ US $7 billion) in petrochemical complexes across the country (Edwards and Kellet 2000). While there are thousands of small and medium plastics manufacturers in India (GOI 2007), the primary players are giant government-owned and private enterprises centred primarily in Gujarat. India's largest private sector enterprise – Reliance Industries Limited (RIL) – headed by its richest citizen Mukesh Ambani (the world's 4th richest person with a net worth of US $29 billion (Forbes 2010)) – is also its largest plastics manufacturer. In 1997 RIL completed a 350,000 tonne per year polypropylene (PP) plant at Hazira, and has built Asia's largest oil refinery at Jamnagar which includes the manufacture of at least 400,000 tonnes of polyethylene annually (Edwards and Kellet 2000). RIL dominates the Indian plastics market, controlling well over 50 percent of the total share. RIL also controls about 75 percent share of Indian petrochemical 'cracker' (facilities that break long chain hydrocarbons into short ones)

capacity, and seeks to increase its polypropylene capacity from roughly 1 million tonnes to 2.6 million tonnes by this year (CIPET 2008).

State support of the plastics industry remains a top priority of the GOI today. The 'Report of the Working Group on Chemicals and Petrochemicals of the 11th Five Year Plan (2007-08 to 2011-12)' of the government's Department of Chemicals and Petrochemicals announced a "National Policy on Petrochemicals", the main objective of which is "To achieve healthy growth in petrochemical sector which will enable India to compete globally" (GOI 2007: 32). The Report is replete with plans for further encouraging the plastics industry, marshalling a host of supportive state tools – *inter alia*: increasing investments; lowering, reducing or "rationalising" taxes; establishing plastics 'Special Economic Zones'; building supportive infrastructure; inviting/liberalising FDI in plastics; creating an "investor friendly climate" in the sector; de-licensing and deregulating the industry; "increasing the domestic demand and per capita consumption of plastics"; providing export incentives; phasing out subsidies for competing natural materials like jute; and most importantly, "increasing the competitiveness…of the domestic downstream plastic processing industry by modernizing it…and freeing it from structural constraints" (GOI 2007: 29-35). These types of structural supports have made the industry powerful, and the industry uses its power in turn to extract further state supports in a self-reinforcing cycle.

In addition, the snack food and packaging industries play a major role in creating a plastic marketplace. As one example, consumption of disposable PET bottles in India was projected to grow to 45,000 tones per annum by 2009, primarily because of near-complete adoption of PET bottles by the mineral water and soft drinks industry led by multinational corporations (MNCs) Pepsi and Coca Cola (Chintan 2006). Production of soft drinks alone was about 6.6 billion bottles in India during 2001-2002 (Vepa 2004), the majority of which were disposable PET. Both companies are notorious to anti-waste activists internationally for having actively opposed 'deposit legislation' (requiring packaging take-back by manufacturers), and for shifting significantly to disposable plastic bottles from returnable glass during the mid-1990s (GRRN 2002). The presence of such MNCs in India is itself a result of state-led liberalisation policies.

4.2 Globalising Diets: Packaged Foods, Dietary Shift, Retail 'Revolution'

A significant and growing percentage of plastic waste consists of food and beverage packaging, indicating that consumption of such products is steadily rising. Rejecting apolitical explanations of this phenomenon, in this section I attempt to understand more

complexly *why* this is so. Following from the above discussion, the dynamics of globalisation as they affect the Indian food system are another important strand in the PE of plastics. Numerous scholars have identified the importance of market liberalisation for exposing developing country economies to a set of intertwining forces that significantly impact upon food systems and contribute to phenomena of dietary and retail shift (e.g. Hawkes 2006; Neilson and Pritchard 2007). Under the neoliberal turn that has dominated government policy around the world in the past 20-30 years, food systems have become increasingly exposed to the global economy and FDI by TFCs. In developing countries, FDI increased faster than GDP or trade between 1990 and 2000, and much of this has been in processed foods and soft drinks by TFCs. U.S.-based supermarket and fast food firms have increased FDI by billions of dollars since the early 1990s, with an increasing proportion of such investments in developing countries (Hawkes 2006: 9).

These processes are significantly affecting India. The spread of supermarkets and the fast food industry is inextricably linked to the spread of plastic packaged and processed foods (Lang and Barling 2007). Supermarkets – both foreign- and domestic-owned – are spreading across South Asia, "particularly in urban India since the mid-1990s" (Pingali 2007: 287), and the fast-food industry in India is growing by 40 percent yearly (Halweil 2004). In terms of foreign supermarket FDI, liberalisation of food retail in India, unlike much of the rest of the economy, occurred only very recently – and partially – in 2006 under the direction of Prime Minister Manmohan Singh, following a series of meetings in 2005 with executives of Wal-Mart, and in an effort to demonstrate compliance with WTO requirements. This move is expected to be "only the first step in a progressive opening-up of the retail sector to foreign interests" (Neilson and Pritchard 2007: 231), assuming a continuity of pro-liberalisation political power. Domestic supermarket giant Bharti is negotiating joint ventures with Western TFCs like Tesco, Wal Mart and Carrefour, while RIL is positioning to dominate the sector with US$4.4 billion investments in 1,575 super- and 'hyper'-markets, 4,000 retail stores linked to its country-wide petrol stations, and numerous shopping malls. The company's aspiration is "to touch almost every Indian customer and supplier" (quoted in Neilson and Pritchard 2007: 233). Related to these trends, retail sales of packaged foods were growing at 28 percent in lower- and middle-income countries in the early 2000s (compared to 2-3 percent growth in high-income countries), and India is one of a handful of countries where the market for packaged food retail sales was expected to experience the world's fastest global growth rates throughout the 2000s (Gelhar and Regmi 2003).

In the post-liberalisation period, numerous TFCs have entered the Indian market, altering consumption patterns and habits particularly amongst affluent and urban population segments. During this period, "several billion dollars worth of foreign capital have invaded the various segments of the food and agroprocessing industry" (Vepa 2004: 218), the outcome of which has been a significant shift to more processed and fast foods (both Indian and foreign). At US$1 billion, the largest FDI in India in recent years has been in soft drinks by MNCs like Coca Cola and Pepsi (ibid.). Though urban and middle class India remains the primary soft drinks market, Coca Cola has increasingly been targeting the rural market as well, opening 50,000 outlets in 3,500 villages in just three months in 2002 (Ciochetto 2009). As Vepa (2004: 222) concludes, "Globalization is the main cause of the expanding market for ready to eat foods", with clear implications for packaging and plastic waste.

4.3 Advertising, Media, and Consumerism

Any theorisations of the connections between economic globalisation and plastics in India would be incomplete without discussion of the growing role of commercial media and advertising in the country. The processes are mutually reinforcing: PEc players flood markets with plastic-packaged products which marginalise others and circumscribe alternatives; advertising stokes desires for the products; desires lead to increased or changed consumer preferences, which feed back into the PEc processes in turn. Neoclassical economic analysis focuses on the ways in which the ideological elicits the material, explained by the theory of 'consumer sovereignty', which posits economic changes as driven by endogenous consumer purchasing choices in a 'free market'. The theory, however, tends to take the ideological for granted as an autonomous point of departure. Numerous social scientific studies have argued the opposite, i.e., the ultimately PEc nature of consumerism (e.g. Goodwin et al. 1997; Ewen 2000; Lee 2000; Princen et al. 2002; Dawson 2005; Magnuson 2008; Dauvergne 2010; Princen 2010), including within India (Ciochetto 2009; Herman and McChesney 2001: 183-88). Magnuson (2008: 240) captures the key PEc dynamic: "Ongoing growth in production and consumption is not just some haphazard thing that people do by chance, it occurs deliberately in response to the capitalist system's requirement to produce and sell ever-larger amounts of goods and services". Regarding plastics specifically, Rogers (2004: 122-123) has shown how, in the U.S. experience:

> People neither gravitated to [plastic], nor did they instinctively throw it away, so the industry also had to inculcate consumers to plastic's disposability….That shoppers had to be taught to consume and discard synthetics illustrates that the ever-expanding plastics market was not

> simply the result of consumer demand for convenience, as is often argued by the industry. As producers switched to synthetics, consumer choice for other substances was narrowed.

In India, similarly, Edwards and Kellet (2000: 86-7) note that far from passively answering the call of Indian consumers:

> …to maintain its cash flow and soak up its huge capacity for petrochemicals, [RIL] has to continually find new markets for its petrochemical goods….To finance their ambitious diversification into infrastructure development projects…they are attempting to greatly expand the domestic market for plastics.

As I discuss in the succeeding chapter, the dominant discourse in India today reflects the 'consumer sovereignty' explanation for increasing plastics consumption. I have shown above how the plastics and packaging industries, along with TFCs (or combinations of all three as in the case of RIL) are flooding markets with processed foods packaged in disposable plastics that steadily edge out alternatives, thus circumscribing the range of choices available to Indian consumers. In this section I look briefly at structural factors associated with media and advertising industries that systematically cultivate preferences towards the 'choices' provided by corporations, and inculcate a general ethic of acquisitiveness within Indian society.

Dating from the 1991 neoliberal embrace, there has been a massive expansion of television sets and stations, plus dissemination of commercial media and branded product advertising, especially of processed foods (Ciochetto 2009). Television ownership shot up in the 1990s, partly from government policies to mould national identity, and satellite and cable television were introduced at the same time. Loosening of media ownership and advertising laws that had restricted FDI in the sector had ushered in 60 cable and satellite channels by 1999, dominated by firms like Star TV and Zee TV (both part of Rupert Murdoch's media empire) (Herman and McChesney 2001: 187). Cable television expanded from 20 to 32 million homes between 1998 and 2000, and corporate expenditures on television advertising increased from 23.9 billion to 49 billion rupees (~US$1.06 billion) during the same time (Ciochetto 2009). To reach India's enormous rural population of 700 million, which still has low percentages of households with television, there has been a substantial non-television-based marketing push paired with establishment of retail outlets by major corporations like Hindustan Lever since 2000 (ibid.).

Cultural studies of Indian television programming and advertising have concluded that the principal effects are “expansion of consumer values in Indian society” and “grooming” of children to become “future consumers” (Ciochetto 2009: 198). In the realm of food, corporate marketing and globalisation of communication technologies converge and intersect with the globalisation of TFCs to “increase [ ] the power of marketing as an agent of dietary change” (Hawkes 2006: 10). Ciochetto (2009: 202) concludes that, “The overall impact of massive increases of foreign company advertising is the acceleration of India into the culture and ideology of consumerism, the expansion of foreign businesses into India and the export of profits to foreign corporations”. Herman and McChesney (2001: 187) largely concur, but qualify this rather generalised conclusion to show the important class element at play, arguing that India’s television media culture “caters to those with effective demand and encourages them to want and to spend more”, thus “promoting an elitist consumerist culture within the larger society”.

By drawing attention to the globalisation and corporatisation of media and advertising in India and their connection to the proliferation of plastic waste, however, I do not intend to imply a crude deterministic materialism whereby all-powerful market forces effortlessly seduce psychically helpless ‘consumers’. Micro-analyses within cultural studies have shown how cultures and individuals always ‘inflect’ and interpret media messages with local meaning (see e.g. Tomlinson 1999). Nonetheless, as Herman and McChesney (2001: 153) point out, such an observation tends to neglect “cumulative effects over time of ideological premises buried in images, lifestyles, and story frames” stemming from the mass media’s “thoroughgoing and incessant indoctrination in commercial values….” Writing from a CR perspective, Joseph and Roberts (2004: 11) challenge a tendency in post-structuralist “discursive political theory” which would see emancipatory/liberatory promise in locally-inflected mass-media consumption. Such a theory, they point out, ignores *material* power asymmetries (cf. Gilbert 2008). In other words, careful attention needs to be paid to the PE of advertising and consumption, the market forces that propel it, and the aggregate socio-environmental effects.

4.4 Waste Trade

The final PEc factor I will consider as bearing on plastics waste in India is the growing phenomenon of international waste trade. Waste itself has become a major commodity (O’Brien 1999; Clapp 2001, 2002; Pellow 2007; Rogers 2007) and is being globalised along paths of least regulatory resistance from the industrial West to countries like India. The U.K., for example, exports millions of tons of waste, including plastics packaging, significant portions of which end up in informal waste markets in India (Ungoed-Thomas

et al. 2007). Interestingly, much of this waste is segregated by U.K. householders for 'recycling'. Similarly, Rogers (2004: 178) reports that, "At least 20 to 30 percent of U.S. plastic recyclables are exported to other countries, mostly in Asia". This amounted to roughly 200,000 metric tonnes in 1995 (Clapp 2002: 165). It is estimated that only 60 percent of this waste is actually 'recyclable', and this portion tends to be treated in "extremely unsafe conditions" (ibid.). The unrecyclable portion ends up in landfills, or is dumped in "unmanaged sites" (Rogers 2004: 178). A report by the Earth Policy Institute found that about 40 percent of PET bottles sent for recycling [in the U.S.] in 2004 were exported (Arnold 2006). Finally, Mutha et al. (2006: 240) report that imports of plastic waste into India increased from 1 to 3 percent from 1990 to 2000.

4.5 Conclusion

In a complex, globalising PE milieu, it becomes increasingly difficult to identify and locate discrete 'point-sources' of environmental problems. This is clearly so in the case of waste/recycling imports from abroad, but also with respect to seemingly more 'domestic' trends. With respect to the topic under consideration, the aggregate effect of the confluence of the sorts of PEc drivers I have detailed above is a massive influx of plastics in India, often (but not exclusively) in the form of packaging for various consumer articles. That Indian consumers are increasing their intake of plastics in this context seems an unremarkable, if not inevitable, outcome. This is not to argue that the phenomenon is solely driven by structural forces, with no room for exercise of individual agency, but rather (consistent with a CR approach) to be able to recognise *degrees of power* of various causal factors (Gruffydd Jones 2006: 54). Doing so reveals individual consumer agency to pale in significance before state/corporate capitalism or neoliberal globalisation.

Chapter 5 Plastics/Waste Discourse, Ideology, and Hegemony

In this chapter I will address the question, 'what are the ideological drivers contributing to the proliferation of plastic waste across India revealed by discursive practices within a hegemonic plastics coalition?' The principal practices I will identify that together form a powerful 'waste orthodoxy' include: a-historical, depoliticised or proximate explanations for increased waste generation and plastics consumption; accommodation by the IPP of growing plastic dissent by selectively incorporating it and strategically responding to it through the NEG regime of 'waste management' (WM); and implicit acquiescence to core features of the orthodoxy by segments of civil society. I will show how the ideological/discursive realm interacts with and shapes the material, especially, how the hegemony contributes to the normalisation of both plastics- and waste-in-society.

5.1 Explaining Waste

The first aspect of the hegemonic discourse I will critically examine concerns explanations given for the phenomena of increasing waste in India generally, and increasing *plastics* consumption and waste specifically. In his critical analysis of the discourse of neoliberal globalisation, Fairclough (2001: 131) notes that, "In the representation of economic change, change in 'the modern world', there is an absence of responsible social agents. Agents of material processes are abstract or inanimate." This same naturalising tendency strongly characterises the waste and plastics discourse in (and about) India today. The explanatory location of the growing plastics consumption and waste resides, in this discourse, in 'agent-less' trends, disembodied and external 'forces', or simply as part of 'how things are'.

5.1.1 A 'Human Activity'

Numerous discourses dealing with waste begin by naturalising waste as a basic and ancient fact of human existence. Reddy and George (2009: 26) begin their article about the 'American' system of garbage collection that should serve as a 'model' for India by stating that "waste production has been a part of human activity since time immemorial." The first line of the 'Introduction' of a World Bank book on solid waste management in India bluntly states: "Human activities create waste" (Zhu et al. 2008: 1). A university researcher similarly launches an academic paper on the topic by establishing that "Waste is an unavoidable by-product of human activities" (Rathi 2007: 105). Waste is deeply naturalised as a deterministic inevitability of both culture ("activities") and biology ("human"). Qualitative and quantitative/scale questions are unaddressed, creating the impression that ancient middens and modern landfills full of plastics should both be

considered equally as ‘waste’, and taken as evidence of essential human wastefulness (cf. Kennedy 2007). But which ‘humans’ create which types of waste, pursuing which activities? The PEc and class elements of consumption, and the novel environmental-health risks of modern materials like plastics are sidelined through such accounts. Because it is a natural fact of life, and something which all humans (equally) create, the analytical focus turns towards what can be done to accommodate and manage it. This has important repercussions for the distribution of responsibility for causing and treating the problem, as will be discussed below.

5.1.2 Desires, Changing Values, and Plastics

The waste orthodoxy rests on a propositional assumption (Fairclough 2003: 55) that the growing consumption of plastics in India is largely attributable to latent plastics consuming predilections liberated by the increasing wealth and affluence (for some) created by economic growth. The Indian Centre for Plastics in the Environment (ICPE), a governmental organisation closely tied to the plastics industry, sees growing plastics consumption as stemming from “changing values and higher incomes” associated with “globalisation”, which is “leading to consumers demand for global standards of performance and quality (*sic*)”, and “a shift from self denial to affordable indulgence” (ICPE 2006). Here ‘globalisation’ is a reification to which growing demand for ‘global standards’ can be attributed, and plastic is the material that can deliver those standards. Specific causal mechanisms are unidentified, and the ‘consumer sovereignty’ theory critiqued in Chapter 4 is assumed.

5.1.3 Blaming Trends

Beyond plastics/waste as culturally, biologically or psychically determined are a set of depoliticised explanations appealing to phenomena or trends common to a wide breadth of commentators. The ascendance of waste generation in India is attributed, with minor variations, to “A rapid population growth, urbanization and change in life style in India” (Unnikrishnan and Singh 2010: 630; cf. Zhu et al. 2008; Rathi 2007: 105; Hazra and Goel 2008). Manning (2002), in an article condemning plastic bags in India, nevertheless attributes their uncontrolled proliferation to “Overpopulation, urbanization, poverty, and ignorance.” Writing for the NGO Toxics Link (TL), which could be considered broadly anti-waste and anti-plastics, Milton (2008) states that, “Developing countries, such as India, are undergoing a massive migration of their population from rural to urban centres …. Modern urban living brings on the problem of waste….” Finally, extending the same argumentation to plastics specifically, at a plastics ‘mega-conference’ in New Delhi last

year put on by the Plastindia Foundation[6], the President of India (PoI hereafter) began her keynote address: "Rapid urbanization and growth in retail business in populous countries like India will result in high growth performance for the plastics sector" (Plastindia Foundation 2009).

Again turning to Fairclough's (2001: 131) CDA of portrayals of 'change' in neoliberal economic narratives, here too urbanisation, economic growth, or population are, like 'globalisation', "Agents of material processes [that] are abstract or inanimate". Elsewhere he writes that:

> many [ ] contemporary texts [represent] global economic change as a process without human agents, in which change is nominalized and so represented as itself an entity which can act as an agent, a process in a general and ill-defined present and without history (it is just what 'is') which is universal in terms of place, and an inevitable process which must be responded to in particular ways (Fairclough 2003: 45).

Undoubtedly there are important links between these phenomena and increasing volumes of waste, yet the specific nature of these links is implicit and unexamined, besides resting on assumptions of a basic human wastefulness. Precisely because they are *phenomena* they remain proximate and partial explanations. They are taken as *a priori*, existing beyond identifiable political geneses, thus becoming reified as agents themselves. Urbanisation in India, for example, is indeed occurring at staggering pace (UNDESA 2009), yet it too has a complex set of PEc drivers[7], so cannot be considered an independent agent or 'natural' process. The particular political outcome of this sort of discourse is, again, to naturalise waste. If phenomena or trends which are taken as "just what 'is'" are to blame for the problem, then waste too is what 'is'.

5.2 Eliciting a Hegemonic Plastic Waste Discourse

> Plastic articles strewn all across the country - in its hills and rivers and in streets - have caused general public ire and environmental harm. It is this indiscriminate littering, which is the basic reason for concerns regarding the waste generated. We need to adopt a responsible approach in the use of plastics. Effective waste management of plastics, by adopting proper recycling technology, is the need of the hour to deal with the menace of plastics waste.

[6] The Foundation describes itself as the "apex body" for India's plastics industry (Plastindia Foundation 2009).

[7] A critical examination of urbanisation in India is outside the scope of this project. See, e.g., Walker 2009 for a thorough review of the relationships between neoliberalism, agrarian crisis and urbanisation in India.

> To a large extent, the lack of appropriate mechanism for segregation and disposal of plastic waste is one of the main problems. Plastics waste is not waste per se, and can be treated as "Wealth", by recycling them into value added products. There is thus a need for concerted efforts by industry and civil society for bringing awareness about the proper use and disposal of plastic waste and for developing suitable mechanisms for systematic waste collection and recycling (*sic*).
>
> - Pratibha Devisingh Pail, President of India (Plastindia Foundation 2009).

The above statement by the PoI in her Plastindia Foundation keynote contains many of the core elements of the hegemonic discourse surrounding plastic waste that I will now turn to. The statement is notable for immediately acknowledging the problem of plastic waste. While the Indian plastics industry has certainly engaged in oppositional or anti-environmental politics (Edwards and Kellet 2000), today the extent of the waste problem is such that denial is no longer tenable. I theorise the discursive turn towards open acknowledgement of the problem as having emerged and grown in recent years precisely because of increasing public dismay over the more overt environmental contradictions of plastic waste (see Chapter 1, section 1.2). In response to these contradictions, numerous citizens' groups, municipalities and even state governments have launched campaigns to restrict or ban certain plastics like thin carrier bags (Edwards and Kellet 2000: 169-173; New York Times 2005; Talwar 2005; Ramesh 2009; Clapp 2010; Kaushik 2010; Kshirsagar 2010). The IPP, in turn, have mobilised a set of responses that, while complex and sometimes contradictory comprise a regime of NEG. The IPP pursues a strategic/selective embrace of environmental discourse and actions, embodied in the PoI's statement above, accepting the existence of the problems while advancing a number of arguments which serve diffusive, displacing and managerial purposes (assigning blame for plastic waste and responsibility for addressing it primarily to individual citizens and fastidiously distinguishing plastics from plastic waste). The regime of NEG and the plastics discourse, I propose, at once depoliticises the issue of plastic waste, and ensures the profitably sustainable reproduction of plastics. This discourse is hegemonic insofar as it has achieved broad tacit or explicit social consent, "when most people in a society think alike about certain matters, or even forget that there are alternatives to the status quo" (Wodak and Meyer 2001: 8). I will now proceed to analyse this discursive strategy and its contribution to the proliferation of plastic waste in India.

5.2.1 Diffusion, Displacement, Management: 'Indiscriminate Littering' and Hegemony

The first reason flagged by the PoI for assigning responsibility for plastic waste – the 'strewing' of plastics due to "indiscriminate littering" – epitomises the 'individualisation of responsibility', one of the hallmarks of NEG (Luke 1993; 1999; Benton and Redclift 1994; Maniates 2002; Rogers 2004, 2007; Cooper 2009), based on diffusion and displacement (Bandura 2002), and environmental management (Levy 1997). Maniates (2002: 57) observes that, "A privatization and individualization of responsibility for environmental problems shifts blame from state elites and powerful producer groups to more amorphous culprits like "human nature" or "all of us"". As Beck (1992: 33) puts it, "[N]o one is responsible in a highly professionalized system where everyone has his own small responsibility…. Everyone is cause *and* effect, and thus *non*-cause". However, beyond merely confusing the PE of waste, the diffusion and displacement of responsibility by the IPP is not meant to distribute responsibility equally between the plastics industry, for example, and individuals, but to shunt it onto the latter.

The central strategy of the IPP, nearly identically to its Western counterparts and precursors (Rogers 2004; Cooper 2009; Clapp 2010), has been to steer the discourse away from criticism of the material itself and its voluminous production, much less the PEc drivers, towards the manner in which it is disposed, where plastic is only objectionable when it becomes waste, it becomes waste only where/when it is 'littered', and it is, invariably, only littered by careless individuals – usually the 'poor' and/or 'ignorant' (cf. Manning 2002, quoted above). The ICPE (2006), accordingly, asserts that, "Undoubtedly [plastic waste] is a serious issue mainly due to the social habit of our people and poor infrastructure for management of solid waste (*sic*) … The long life and desirability of plastics, which have made them a material of choice for many applications is seemingly a disadvantage when it comes to their disposal. However, when handled properly, plastics do little damage to our environment." A recent press conference organised by the AIPMA in Mumbai for "building a positive image of plastics and remove the stigma in the minds of media and common man about plastics (*sic*)", stressed the message that "[poor] waste management is the root cause of whole [waste] issue and not the plastic bags (*sic*)" (AIPMA 2010). The GOI's Department of Chemicals and Petrochemicals concurs: "It is the indiscriminate littering which cause environmental impact by way of solid waste management….There is need to develop awareness on recyclable properties and eliminate littering" (*sic*) (GOI 2007: 33). An advertisement by a consortium of plastics industry trade groups emphasises, just as Western industry has

done since the 1950s, that “Plastics don’t pollute, people do” (ICPE et al. n.d.). Finally, some important anti-waste NGOs too tend to adopt this language whereby waste is a *commonly caused* problem, mostly from littering. Thus Exnora (n.d.), a waste management NGO in Chennai, emphasises that “Cities are overflowing with garbage generated by ‘ALL OF US’” (*sic*). The concluding line of a report on “three yearlong projects on zero waste management (*sic*)” by TL supports, perhaps unwittingly, the IPP’s position: “we are sure that our project helped them [slum dwellers] learn the basic lesson that not to litter waste” (*sic*) (Milton 2008).

Diffusion, displacement and individualisation of responsibility for plastics waste is accompanied by emphasis on WM, that is, treating the problem of plastics waste *ex post facto*, at the consumption end of the materials cycle. As noted, the management of the waste problem is an accommodation simultaneously to the disapproval of waste and to a mode of production based on constantly increasing matter-energy throughput. Hence the IPP has enthusiastically embraced effective WM, including: better collection of waste (through better organisation, more regular pick-ups, more workers, more funding etc.); multiplication of collection/rubbish bins to facilitate convenient/proper disposal; organised dumping/landfilling; organised burning/incineration; unorganised, i.e. open, burning under ‘optimal conditions’ (ICPE 2006); high-tech ‘carbon offsetting’ schemes qualifying for funding under the ‘clean development mechanism’ – e.g. conversion of plastics garbage into ‘carbon neutral’ jet fuel (Times of India 2010) and so-called waste-to-energy second generation incinerators (GAIA 2009; Unnikrishnan and Singh 2010) – and above all, recycling (Times of India 2009; Vyas 2010). The PoI’s emphasis on the need for “adopting proper recycling technology” to “deal with the menace of plastics waste” reflects a growing hegemonic consensus. The ‘proper handling’ of plastics waste advocated by the ICPE (2006) entails “segregation of dry and wet solid waste at the source, creation of efficient solid waste management infrastructure coupled with establishment of recycling centres as plastics can be recycled several times before it reaches its end of life (*sic*).” While many WM approaches are the sites of contestation between Indian anti-waste civil society and the IPP – in particular incineration – the areas of consensus – WM and recycling – are much more crucial to the sustenance of the hegemony.

5.2.2 Managing Waste and Recycling Power

Promoting WM and in particular plastics recycling rests on the idea that plastics waste is not, as the PoI says, “waste per se” but “can be treated as “Wealth”. This notion of waste-as-resource strongly resonates in the discourse of segments of civil society.

Exnora (n.d.) recommends "Twenty seconds by each person everyday" dedicated to "'source segregation', as and when the garbage emanates" which will "bring a total clean revolution". Further, in a line meant to critique incineration in favour of recycling, Exnora asks: "When you can turn it into CASH, why burn TRASH and make it ASH (*sic*)". Exnora has partnered with PepsiCo India on WM projects in Tamil Nadu, Andhra Pradesh and Haryana in order to 'educate community members' on "how to recycle waste, not just relocate it" in order to achieve "a clean environment" (PepsiCo n.d.). Since PepsiCo is one of the largest producers of disposable plastics in India (see Chapter 4), the material benefits of such a project – investing responsibility for collecting, sorting and 'recycling' those plastics to 'community members' – are quite clear. Here a 'clean environment' is equated with the absence of litter, rather than, for example, one free of emissions from industrial production processes. This partnering with a well-known anti-waste non-governmental organisation (NGO) is a clear instance of Gramscian 'Trasformismo':

> …a strategy of assimilating or domesticating potentially dangerous ideas, and the groups and organization which promotes them (*sic*). This process works towards the integration and incorporation of those ideas and groups, drawing them within the paradigm of the dominant social group (De Lucia 2009: 236).

The embrace of the WM paradigm signals a tacit resignation to the inevitability of both plastics and waste, and acquiescence to the power of the plastics industry, and hence indirectly to the PEc forces shaping and driving neoliberal globalisation.

Recycling is embraced by industry not only because it represents a sensible business strategy, but provides an acceptable alternative to regulatory controls such as "imposing taxes" or "banning plastic bags altogether" (Clapp 2010: 9; cf. Levy 1997; Maniates 2002: 58). According to Rogers (2004: 176):

> The social and political impact of [ ] pro-recycling PR was much like that of anti-littering efforts in previous decades. Regardless of industry's actions, the rhetoric of recycling targeted individual behavior as the key to the garbage problem, steering public debate away from regulations on production.

Indeed, during the 1990s the U.S. plastics industry simultaneously promoted recycling and opposed nearly 200 anti-disposable packaging legislative initiatives around the country (Rogers 2007). Another strategy has been adoption of private, voluntary environmental governance, whereby a future for the industry is secured through selective

commitment to pollution reduction rather than phase-outs or bans, thus epitomising Luke's (2006: 101) concept of 'sustainable degradation' – "a proactive, profitable and powerful policy that maintains some environmental viability by creating zones and spheres of control where degradation is lessened, but never stopped". This is the approach of the international chemical industry association 'Responsible Care', of which RIL is an important member (Edwards and Kellett 2000). The Indian plastics industry has even strategically and selectively accepted the growing pressure for plastic bans, but only on very thin plastic bags: "we fully support [the] initiative of strict enforcement of the ban on thin plastic bags below 50 microns" (AIPMA 2010). This was qualified, however, with an admonishment against "a complete ban on all types of plastic bags which will definitely lead to inconvenience of the people especially for the weaker section of the society (*sic*)" (ibid.). By supporting or sponsoring recycling, critics argue, industry manages to both to placate plastics' opponents, and devolve responsibility to individuals and communities to collect discards and plug them back into the treadmill of production (Luke 1993; Horton 1995; O'Brien and Penna 1998; de Kadt 1999; O'Brien 1999; Rogers 2007; Cooper 2009). Industry, in both India and the West (see e.g. ACC n.d.; Clapp 2010: 9), positions itself as a leader in tackling, not causing, the problem – but tackling it *through* encouraging/facilitating individual behaviour modification.

5.3 Conclusion

In this chapter I have identified the main features of a plastics/waste orthodoxy in India today as: naturalised and apolitical assumptions about the inevitability of waste; explanation of increasing plastics/waste through appeals to innate desires and reified trends; the discursive establishment of waste as a discrete category distinct from plastics; and the individualisation of responsibility for causing, preventing, and 'cleaning up' plastic waste. The widespread dissemination and material uses of this orthodoxy (e.g. in avoiding manufacturing restrictions and sustaining the treadmill of plastics production) shore up the hegemonic plastics coalition. This, in turn, feeds into and becomes 'actualised' in the plastics PE (though not in any 'seamless' relationship – see Chapter 3, Section 3.5.1). I will consider some of the implications of this self-reinforcing cycle in the dissertation's conclusion.

Chapter 6 Conclusion: Contradictions and Conundrums

As the environmental-health contradictions of plastic waste continue to multiply, this material and its place in society will become increasingly controversial. Yet, as I have hopefully demonstrated, systemically contesting plastic waste will be challenging to say the least, perhaps impossibly so. In this Conclusion I will elaborate on this dilemma. Plastic waste is increasing *because* plastics production and consumption are increasing, and those phenomena themselves are underpinned by a complex and dynamic PE, which I sketched in Chapter 4. This insight is important for answering this dissertation's primary question, because, as I showed in Chapter 5, a core argument of the plastics industry has been to construe 'waste' vis-à-vis plastics as an isolable category that occurs only due to mishandling or mismanagement of plastics discards, and which can in any case be redressed by various technical means, in particular recycling.

Once they are manufactured, plastics can only ever be made into other plastics, or perhaps fuel, or become 'waste' in the conventional sense (i.e. littered), each with new environmental contradictions. Since they cannot be 'unmade', they become indelibly part of local and global ecologies. In this situation, it is manifest that tackling the problem of waste in a systemic way necessitates state regulations on production. Yet as I mentioned, in the Indian case (and it applies generally), the state itself is long-since one of India's greatest [plastic] industrialists (cf. Ludden 1992: 267; Chibber 2003), and is an essential crutch to the flourishing of private industry and to the upkeep of a hegemonic plastic coalition. This apparent contradiction, contra conventional representations, is a hallmark of neoliberalism – both de-regulation *of* and active regulation *for* capital (Munck 2005; Scholte 2005).

I have shown the mutually constitutive relationship between plastic waste in India and a globalised, neoliberal capitalist system. While it is far from obvious that this is an exclusive relationship, Huber (2008: 113, emphasis in original) has argued convincingly that the "social and ecological contradictions of fossil fuel energy [can] be situated as part and parcel of the *internal contradictions of capitalism*". He counts "waste and pollution" among the many contradictions of "fossil capitalism". If this is so, then the question arises as to whether plastics/waste will peak and decline along with fossil fuels, or whether capitalism can transform that decline into yet a new frontier of accumulation. It is certainly the case that the industrial excesses enabled by the petrochemical era are themselves becoming new objects of profitable treatment by the same forces that indulged the excess. Plastic waste and its correlate, WM, are a stark example.

To say, however, that plastics and plastic waste *per se* are by-products of fossil capitalism is an abstraction. What this means in part is also that they are deeply invested in and depended upon by multiple actors, including not just the IPP, of course, but perhaps upwards of a million people in India directly or indirectly employed by just the plastic bag manufacturing industry (Timmons 2009) plus, ironically, the waste-pickers who suffer their worst effects (Gill 2010).

In addition to regulations and restrictions on plastics manufacture, truly reducing the volume of plastic waste in India will ultimately require a wide range of fundamental reforms and contestations of the broader neoliberal PE. The daunting nature of this task, plus the broad socio-economic dependency on plastics/waste, perhaps explains the tendency towards 'end of pipe' interventions, and the aversion to more systemic prevention approaches. The urgency of the waste crisis, compounding daily, creates pressures to focus on immediate management. The ability to immediately stanch the accumulation of plastic waste through fundamental system change is limited, whereas collection and segregation drives can provide much-needed (if temporary) relief – and employment.

As I have hopefully made clear, the material/ideational dialectic in the case of a plastics/waste PE and discourse in India is complicated and shifting. Neither the discourse about the inevitability of or responsibility for causing/managing plastic waste, nor the PEc processes that drive multiplication of plastics in society, can be rightly said to precede or 'cause' the other. Yet, I want to end with a consideration of the idea, following Adorno and Horkheimer (1972), that their co-determination may effectively transform plastic waste into the inevitability it is said to be. Plastics/waste have now morphed into a sort of 'second nature'. Discursive naturalisation may be said to lead to material naturalisation, that is, naturalisation in fact rather than idea, and vice-versa. This material recalibration circumscribes the formative realm of future ideas. Schwartz (2007: 50) has a similar worry about 'corporate capitalism', that, "rather than being defeated or even modulated by the facts, [it] will change what the facts are".

Plastics and the plastic industry have certainly 'changed what the facts are' in terms of material reality. This is not to say that a plastic waste-free world can no longer be *knowable* by dint of the material ubiquity of plastic today, but that it can be *only* so since, as Weisman (2007) notes, "polymers are forever". While the physical nature of plastics makes this intractable, it does not necessarily foreordain further plastics/waste proliferation. For the moment, however, the vast power of the IPP and the PEc context in

which it is situated are likely to bring to pass the forecasts of greatly expanding plastics consumption and waste in India.

Nevertheless, even if plastics/waste are now an indelible part of (most of) society, and an intrinsic outcome of fossil capitalism, that is different from being an inevitable part. Plastics and consumerism are long-since normalised within modern commercial culture, but my experiences in India, and in researching this dissertation, have convinced me that ‘the normal’, however deeply entrenched, should not be confused with ‘the natural’, but should be understood rather as ‘the political’, and thus changeable.

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