

Cultural Materialism, Media and the Environment

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Abstract: In this article, we examine two interrelated characteristics of the cultural materialism exemplified in Raymond Williams’s work. The first is an analytical focus derived from his critique of ‘militant particularism’. The second is the integration of an ecological perspective into arguments for social transformation. We expand his ‘ecological argument’ via biosphere perspectives, linking local ecological catastrophes to global environmental realities, seeking to honour Williams’s socialist ethico-political commitments to labour and his idea of militant particularism while pressing for a deeper analysis of the eco-crisis. Focusing on problems of environmental and occupational risks in media technology production and disposal, we argue against a narrowly consumerist, or neoliberal, view of cultural materialism, and provide opportunities to illustrate what an eco-materialist study of culture might offer.

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As the spectacular expansion of the global economy has undermined the environment, the need to control unlimited economic growth has become increasingly urgent. There is a patent conflict between the need to reverse or at least to control the impact of our economy on the biosphere and the imperatives of a capitalist market: maximum continuing growth in the search for profit. This is the Achilles heel of capitalism. We cannot at present know whose arrow will be fatal to it

Eric Hobsbawm, *How to Change the World*¹

The hard issues come together on two grounds: the ecological argument, and changes in the international economic order

Raymond Williams, *Towards 2000*²

The Backdrop – Militant Particularism(s)

In the spring of 2012, 8,000 coal miners in the northern Spanish provinces of Asturias and Leon went on strike to protest the central government’s order to cut subsidies to the coal sector. The strike lasted nearly four months, with miners arming themselves with rifles and makeshift rocket launchers to ward off attacks from the Guardia Civil, Spain’s paramilitary force. Strikers took over towns, occupied mines, and set up barricades to mark the borders between

1 their communities and the outside reality of austerity policies adopted by Spain 1
2 under pressure from the International Monetary Fund, the World Bank and 2
3 the European Central Bank. They became the most militant workers in the 3
4 country in terms of industrial action.³ 4

5 The region has a long history of anti-capitalist trade union militancy, 5
6 symbolised not only by the outpouring of solidarity from the international trade 6
7 union movement but also by the outrage expressed by the sons and daughters 7
8 of the region, generations of whom were fed and nurtured by the northern 8
9 mining economy. One of them is Spanish football star David Villa, proud of 9
10 his roots in the Asturian mining town where he grew up listening to stories 10
11 about his great-grandfather, a revolutionary in the anti-government miners' 11
12 revolt of 1934 who was known locally as 'Trotski'. Villa used his celebrity to 12
13 call for wider solidarity with the miners in the face of an official gag order 13
14 on media coverage. In a spectacular action to bring further attention to their 14
15 struggle, hundreds of miners marched 450 km to Madrid, joining ongoing 15
16 protests that had begun with the 15 May 2011 anti-government occupations 16
17 and eventually inspired the global Occupy movement.⁴ 17

18 At stake was not just a wage or livelihood, but the integrity of a way of life. 18
19 The coal economy was struggling to meet Spain's growing energy demands 19
20 and dependence – Spain imports between 70 and 80 per cent of its energy, 20
21 mostly in oil, gas and coal.⁵ The subsidies that were slashed by the right-wing 21
22 Mariano Rajoy government were designed to bolster the domestic sector and 22
23 finance programmes to shift workers from mining to jobs in green infrastructure 23
24 development, in keeping with the previous government's legislative effort 24
25 to move Spain to renewable energy consumption.⁶ The contradictions were 25
26 obvious if complex for a progressive politics, as if one person's job and wage 26
27 were another's air and water, and reactionaries were claiming to protect the latter. 27
28 In the contradictory mess of Spanish politics, deals were still made for green 28
29 infrastructure and forward-looking energy policy. The promises included green 29
30 jobs, with training, and a public subsidy to minimise the pain of transition in 30
31 affected communities. After the crisis hit, the austerity fix cancelled all government 31
32 obligations to the green transition, and the miners responded in kind. 32

33 Their strike references three interrelated characteristics of the cultural 33
34 materialism exemplified in Raymond Williams's work. The first is an analytical 34
35 focus derived from his critique of 'militant particularism'.⁷ The second is the 35
35 use of alternative forms of media and cultural expression to bring this struggle 35
37 into the wider political culture. And the third is the integration of an ecological 37
38 perspective into arguments for social transformation. In this essay, inspired 38
39 by the Asturian resistance, we draw on a decade of our scholarly and popular 39
40 writing about the environmental impact of the media, including the 2012 book 40
41 *Greening the Media*, to illustrate his first and third points.⁸ 41

1 The miners' strike was not merely a local flair up of militant action. In 1
2 keeping with the militant particularism endorsed by Williams, it expressed a 2
3 transterritorial, multi-generational struggle against European government 3
4 policies that threaten workers' rights, autonomy and wellbeing. The 4
5 contradiction between capital and labour unquestionably defines the miners' 5
6 lives in a particular place and time, but also resurfaces in the shared histories 6
7 of intergenerational conflict, resistance and solidarity. The regional identity 7
8 of Asturians is built on both working-class formations and cultural-linguistic 8
9 differences that express the ties of local particularities to structural forces in 9
10 the global political economy.⁹ The battle lines they drew in this conflict were 10
11 deeply rooted in knowledge of the roads, valleys, rivers and mountains where 11
12 the miners took positions to outwit and out-gun, when they could, the better 12
13 armed paramilitary representing state and capital. 13

14 The role of the alternative media emerged at the height of the strike, 14
15 before the late summer withdrawal back to work in the mines. At that time, 15
16 the fight clearly linked the situated realities of working-class community to 16
17 forms of communication that reached regional, national, and international 17
18 audiences already positively predisposed to a socialist understanding of the 18
19 miners' actions. In the media events organised with the iconic Villa (also 19
20 known as *el guaje*, 'the kid', in Bable, the Asturian dialect) and those focused 20
21 on the miners marching to join anti-government protesters in the capital, we 21
22 can identify the kind of transmission, reception, and response that resists the 22
23 'dominative' forms of communication that Williams criticised two generations 23
24 ago in *Culture and Society*.¹⁰ 24

25 The miners' struggle is an instance of oppositional media events 25
26 confounding mainstream control over the signification of resistance, as per 26
27 the Occupy movement's strategy to frame protests as acts of 'the 99 per cent'. 27
28 In contrast to Williams's time, when broadcasting and print were predominant, 28
29 today's on-line media sources (streaming video, YouTube archives and other 29
30 web-based media) allow us to retrieve information almost instantly about the 30
31 miners' struggle and hopes, to hear about their friends, families and neighbours, 31
32 and to understand their disgust with national political leadership. We can more 32
33 readily find electronic channels through which to contribute money and other 33
34 expressions of solidarity to their cause. Of course, such access to information 34
35 and communication is not immune to manipulation through framing and 35
35 propaganda, but it can enrich the empirical basis of analysing struggles through 35
37 cultural materialism, in particular when exposing how workers survive the 37
38 capitalist political economy during its periodic crises. Though it's risky to say, 38
39 we can imagine that Williams, after warning against technological determinism, 39
40 would welcome these media tools into the mix of reportage, theorisation, 40
41 abstraction and polemic that informed his cultural materialism.¹¹ 41

1 The miners' strike exemplifies a cultural landscape in dialectical tension with 1
2 the wider world of policy, law, international trade, mass communication and 2
3 newer mediated forms. The power struggle at the heart of the Spanish miners' 3
4 strike of 2012 hinged on one of the 'hard issues' for the left that Williams 4
5 identified in *Towards 2000*.¹² Environmental despoliation threatens the planet. 5
6 But political action that aims to mitigate the destruction wrought by industrial 6
7 growth will fundamentally change the character of industrial societies and, with 7
8 it, whole ways of life. The question for Williams was how, in the face of 'the 8
9 ecological argument', can a cultural materialism, and more generally a socialist 9
10 politics, be imagined. This is especially acute in the Asturian example, where 10
11 a right-wing state is seeking to retrain workers and restructure employment in 11
12 the name of a greener and more efficient world. 12

13 In the early 1980s, Williams found little to praise in proposals to address 13
14 threats to labour posed by the ecological and industrial decline of advanced 14
15 capitalist societies. Some activists raced ahead with calls to reject industrial 15
16 production and return to subsistence agriculture, local crafts, the pastoral 16
17 life – but few were followed. The reason, he argued, was not because these 17
18 were 'unavailable ways of life' but rather that they were 'unavailable as whole 18
19 ways of life for existing populations of urban industrial societies'. To make 19
20 such 'unrealistic proposals' the central platform of anti-capitalist critique was 20
21 'either an indulgence or a betrayal'.¹³ Such environmental politics engaged in 21
22 a shallow form of militant particularism that lacked a connection to general 22
23 interests, misunderstood the international political economy and internalised 23
24 dominant forms of expression. For Williams, its proponents were 'friends 24
25 of nobody, and to think that they are allies in the ecology movement is an 25
26 extraordinary illusion'.¹⁴ He argued against the temptation to 'jump' into these 26
27 forms of environmentalism with 'indifference towards all other organised and 27
28 institutionalised political and social forms'.¹⁵ 28

29 By the time of the miners' strike in Spain, such worries appeared 29
30 unnecessary. A conservationist concern with the local environmental impact 30
31 of coal mining, for example, might still be 'a friend of nobody' but also have 31
32 little political traction given the deeper, greener sense of militant particularism 32
33 at play in the miners' struggle. Drought, flood, habitat decimation, species 33
34 decline – all these local ecosystem calamities are widely acknowledged today as 34
35 products of global biosphere processes, and directly attributable to capitalist 35
35 industrial and development practices. 35

37 Understanding the biosphere is not a simplistic matter of acting locally– 37
38 thinking globally, which has led to lots of posturing without much empirical 38
39 research or working through methodological issues (which cannot be resolved 39
40 via awkward locutions like 'glocalism'). Biosphere thinking provides an exit 40
41 from sentimentalising local, embedded cultural practices. It also presents a stark 41

1 ethical dilemma about how to address the threats to the ‘whole way of life’ that 1
2 are engendered by a means of production largely responsible for the eco-crisis. 2
3 This is precisely the ethico-political challenge posed by the coal miners’ strike 3
4 in Spain to cultural materialists, one that serves as the background for our 4
5 analysis of media technology, environment and cultural materialism. 5
6
7

8 **Note to Materialists – Revive Socialist Project** 8
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10 Some avowed adherents to Williams within cultural studies have travelled 10
11 some distance from the necessary blend of twenty-first-century socialism and 11
12 environmentalism. The shift is breathtaking. These writers have disclaimed 12
13 their leftist roots and invested instead in Schumpeterian entrepreneurs, 13
14 evolutionary economics and ‘creative industries’. They never saw an ‘app’ they 14
15 didn’t like, or a socialist idea they did.¹⁶ They dismiss Marxist perspectives on 15
16 class exploitation and environmental despoliation, which one commentator 16
17 scorns as part of a ‘leftist backlash against digital media’.¹⁷ The lives of 17
18 workers seem to matter little when compared to technological innovation, as 18
19 new products and services destroy existing ones, with anyone left standing the 19
20 beneficiary. 20

21 Consider a prominent study prepared for capital and the state entitled 21
22 *Working in Australia’s Digital Games Industry*. It does not refer to working 22
23 conditions in rare earth metals extraction, factories where games are made, or 23
24 electronic waste dumps – all of which should fall under ‘working in Australia’s 24
25 digital games industry’.¹⁸ In this research, media technologies are benign 25
26 drivers of growth that somehow transcend the toxic realities of their origins 26
27 – a dead idea that survives, zombie-like, in such industry research as this 2013 27
28 report from PricewaterhouseCoopers (PwC): *The UK Film, TV and Video Games 28*
29 *Industries Today – Powering Ahead*.¹⁹ The pro-growth salute to ‘powering ahead’ 29
30 privileges the productivity of industry while forgetting the materiality of 30
31 bodies, experiences, careers and habitats. By and large, the risks to environment 31
32 and to the people who actually make media technologies are excluded from 32
33 the dominant discourses of high technology. It is as if telecommunications, 33
34 cellphones, tablets, televisions, cameras, computers and so on sprang magically 34
35 from a green meritocracy of creativity, with by-products of code, not smoke. 35

35 These new-media *savants* like to invoke pre-capitalist philosophers of play 35
37 and thought, particularly the Ancient Greeks, thereby dodging questions 37
38 of state and capital by heading for an aesthetics devoid of any relation 38
39 to contemporary political economy. Their reliance on high art and high 39
40 technology brokers a high neoliberalism that rests on the banal possessive 40
41 individualism of neoclassical economics. Far removed from the messy 41

1 realities of inequality and injustice, reactionary game analysts, for example, are 1
2 content to study virtual ‘environments’ to understand ‘whole societies under 2
3 controlled conditions’, neglecting or caricaturing history and ethnography as 3
4 they do so.²⁰ This transcendence of reality resides in a fantasy world where 4
5 old (print, live) and middle-aged (screen) media are irrelevant – where *La fin* 5
6 *de la télévision* [the end of television], *La televisión ha muerto* [television is dead] 6
7 and other Olympian pronouncements suggest the very end of media-as-we- 7
8 know-it.²¹ Media and cultural studies are instructed to make themselves anew 8
9 because new technologies are helping our species evolve as we wreak creative 9
10 destruction on aged hierarchies.²² 10

11 And while it might be historically true that new media supplant or 11
12 supplement earlier ones *as central organs of authority and pleasure* – newspapers 12
13 versus speeches, films versus plays and records versus performances – the fact 13
14 is that the new blends with the old in a pattern of incorporation that finds 14
15 television modelling the internet and vice versa, while print and telephony 15
16 expand due to their convenience and durability.²³ Established cultural 16
17 producers dominate across these media, which are really rather distant from 17
18 cybertarian sweatshops and elite techno-bohemian wet dreams.²⁴ The BBC 18
19 offers news produced by a lot of professionally-trained journalists; YouTube 19
20 has drama features material from TV; and Wikipedia follows the eighteenth- 20
21 century format of an encyclopaedia.²⁵ This traditional tendency becomes 21
22 apparent with minimal critical, historical, sociological, or spatial reflection. We 22
23 are prone to a ‘new frenzy for images’ that would have been familiar to the 23
24 generation of 1860–80, entranced by trickery and overt re-assembly, with 24
25 photographers aspiring to art and painters hoping for verisimilitude.²⁶ 25

26 Along with this repetition of genres comes a repetition of claims and 26
27 fantasies. In the nineteenth century, people were supposedly governed by 27
28 electrical impulses. Telegraphy was conceived of as a physical manifestation of 28
29 intellect that associated the essence of humanity with communicative labour. 29
30 In the early twentieth century, radio waves were said to move across the ether, a 30
31 mystical substance that could contact the dead and cure cancer. George Orwell 31
32 described this rhetoric seventy years ago in ways that resonate today: 32

33
34 Reading recently a batch of rather shallowly optimistic ‘progressive’ 34
35 books, I was struck by the automatic way in which people go on repeating 35
35 certain phrases which were fashionable before 1914. Two great favourites 35
37 are ‘the abolition of distance’ and ‘the disappearance of frontiers’. I do 37
38 not know how often I have met with the statements that ‘the aeroplane 38
39 and the radio have abolished distance’ and ‘all parts of the world are now 39
40 interdependent’.²⁷ 40
41 41

1 During the inter-war period, it was claimed that the human sensorium had 1
2 been retrained by technology. By the 1950s and 1960s, machines were thought 2
3 to embody and even control consciousness. This mad mixture of science and 3
4 magic continues into our own digital culture as cyber-enthusiasts fetishise each 4
5 new ‘upgrade’ as if it could reboot their identity into a perpetual now-ness. 5
6 Facebook features ‘Peace on Facebook’ and claims the capacity to ‘decrease 6
7 world conflict’ through intercultural communication, while Twitter modestly 7
8 announces itself as ‘a triumph of humanity’.²⁸ Two decades ago this frenzy was 8
9 captured on video as people lined up to buy the Windows 95 operating system, 9
10 amid Microsoft’s advertising futurism.²⁹ Today, the excitement gathers around 10
11 a different firm’s wizardry; tomorrow it will be yet another³⁰ Machinery, 11
12 rather than political-economic activity, is the guiding light. Even the United 12
13 Nations Conference on Trade and Development, long a key site for alternative 13
14 theories and representations of the economy, has joined the chorus.³¹ 14

15 Today’s version of this perennial yet endlessly naive technological optimism 15
16 is both predictable and shocking. It blends with a deregulated, privatised, 16
17 individualistic, anti-collective perspective that has been dominant across the 17
18 consumerist social sciences for decades. This optimism is not only indifferent 18
19 to the inequality and the violence of capitalist development that preoccupied 19
20 Williams’s cultural materialism; it is consciously opposed to Williams’s socialism. 20
21 If cultural materialism aims to take issues of class and environment seriously, 21
22 it must look to Williams’s socialism and critique of militant particularism, then 22
23 merge these with a contemporary biosphere perspective. 23
24 24
25 25

26 **Greening Cultural Materialism – the Media Example** 26

27 *The Metaphor* 27

28 28
29 29
30 The philosopher John Dewey first suggested that communications exerted 30
31 environmental influence upon the organisation of society. Dewey stressed 31
32 technology’s inexorable link to ‘things and acts’, ‘instrumentalities’ deployed 32
33 on behalf of other goals ‘of which they are means and predictive signs’.³² 33
34 Marshall McLuhan spoke of environs of media technologies as the central 34
35 concern of a field of ‘media study’, promoting the idea that media analysis was 35
35 ‘resolved with a metaphor’ of environments.³³ This substitution still obscures 35
37 the ecological context of media technology (search any database for media and 37
38 environment, environmental impact of media, media and ecology, or related 38
39 phrases, and you will see what we mean).³⁴ Williams’s careful scepticism of 39
40 is a useful corrective. This passage from his 1972 essay ‘Ideas of Nature’ 40
41 41

1 describes a despoiled landscape that must see a shift of vocabulary if it is to be 1
2 understood as a purposive rather than accidental result: 2

3
4 The slagheap is as real a product as the coal, just as the river stinking with 4
5 sewage and detergent is as much our product as the reservoir ... [T]he 5
6 pollution of industrial society is to be found not only in the water and in the 6
7 air but in the slums, the traffic jams, and not these only as physical objects 7
8 but as ourselves in them and in relation to them ... [W]e cannot afford to 8
9 go on saying that a car is a product but the scrapyards a by-product, any 9
10 more than we can take the paint-fumes and petrol-fumes, the jams, the 10
11 mobility, the motorway, the torn city-centre, the assembly line, the time- 11
12 motion study, the unions, the strikes, as by-products rather than the real 12
13 products they are.³⁵ 13

14
15 *Landscape* 15

16
17 From a biosphere perspective, media environments look more like this: 17
18 transmission and reception towers, guy wires and transmission cables altering 18
19 land use, obstructing the flight path of migratory birds, killing tens of millions 19
20 of them (over two hundred species) in North America every year and an 20
21 estimated 174 million annually across Europe and the United States.³⁶ 21

22 Consider one particularly telling instance of the biosphere's political- 22
23 economic changes: Guiyu, in the Guangdong Province of China. Once a 23
24 farming town, over the last two decades it has become a centre for recycling 24
25 electronic waste (e-waste) from the 'creative industries' of the West. The 25
26 environmental impact of this transition to e-waste recycling includes persistent 26
27 organic pollutants saturating the human food chain. With soil and water 27
28 poisoned, it is unsafe for Guiyu residents to return their agricultural lands 28
29 to productive use. Perhaps 20 per cent of the recyclers lack basic protection 29
30 against toxic metals, with lead exposure at fifty times the 'safe' levels (82 per 30
31 cent of the city's children under aged six suffer lead poisoning). Contaminants 31
32 of residual waste from incinerators and landfills have saturated local dust, soil, 32
33 river sediment, surface- and ground-water and air. People living in proximity 33
34 to the sites carry lethal dust residue on their clothing and into their homes. 34
35 Of Guiyu's more than five thousand e-waste workers, many are pre-teen girls, 35
35 picking away at dangerous materials with little or no protection (this is all 35
37 too common among the estimated 700,000 working in unregulated e-waste 37
38 processing throughout China).³⁷ 38

1	<i>History</i>	1
2		2
3	These landscape stories are invisible to orthodox histories of media technology,	3
4	which recount a non-ecological, teleological narrative of heroic business	4
5	innovators and plucky independent inventors dialing up freedom and fun for	5
6	consumers, ringing in new forms of public knowledge to satisfy an innate	6
7	desire for progress and artistic realism. This mimetic fallacy assumes that the	7
8	power of artists' and audiences' desires drives technological innovation in the	8
9	media.	9
10	Despite Williams's counter-example, in accordance with the dominant	10
11	foundation myths, media history is rife with narcissistic accounts from	11
12	the media themselves, which often tell us that digitisation derived from the	12
13	laid-back musings of California dreamers rather than the military-industrial-	13
14	entertainment-academic complex. And digitisation fused the media in the 1980s	14
15	to create today's <i>Aufklärung</i> , delivering text, voice, data, video and music to	15
16	consumers and enabling them, <i>Gestalt</i> -like, to become producers. 'Prosumers'	16
17	supposedly emerged from the dream to take over the means of production,	17
18	streaming onto computers of every size and resolution. ³⁸ The prosumer is	18
19	subject to the simultaneous triumph and emptiness of commodity aesthetics,	19
20	where signs substitute as sources and measures of value. The symbolic power	20
21	of media technology is enhanced by the idea of a liberated consumer, which,	21
22	like the commodity sign, provides no residual correspondence to a reality	22
23	other than its own.	23
24	In a materialist cultural history, the heroic march to aesthetic realism,	24
25	digital media and consumer sovereignty looks starkly different. In parallel to	25
26	a succession of key moments in capitalist development, environmental effects	26
27	of media technology began to emerge in small, incremental stages in the	27
28	fifteenth century. The volume of toxic drips and harmful puffs increased over	28
29	four centuries, spreading across the Earth in a pattern of uneven development	29
30	established by merchants, mercenaries and missionaries. The Industrial	30
31	Revolution brought crucial transformations in the scale and scope of media	31
32	technology, as the convergence of chemical, mechanical and electrical	32
33	processes accelerated the accumulation of toxins in the environment. In the	33
34	twentieth century, these innovations launched the era of electronic media and	34
35	US hegemony while increasing the burden borne by the Earth's ecosystems.	35
35	Take film. The type and volume of chemical waste emitted into the air and	35
37	waterways by large-scale film stock production is traceable to the chemical	37
38	process for extracting cellulose from cotton and wood pulp, which was	38
39	invented in the 1800s for papermaking. This process required large volumes	39
40	of clean water and a variety of chemicals, including alcohol, sodium hydroxide,	40
41	camphor and nitric and sulphuric acids. From the mid-1920s, the Kodak Park	41

1 Plant was churning out 200,000 miles of film stock annually, sucking more 1
2 than twelve million gallons of water daily from Lake Ontario and spewing the 2
3 used water, along with chemical effluents, into the Genesee River. At the end 3
4 of the century, when it supplied 80 per cent of the world's film stock, Kodak 4
5 Park was using thirty-five to fifty-three million gallons of fresh water a day. By 5
6 then, the company was the primary source of carcinogenic dioxin released into 6
7 New York State's environment. Rochester was 'ranked number one in the US 7
8 for overall releases of carcinogenic chemicals' from 1987 to 2000.³⁹ 8

9 A fog of enchantment clouds a materialist history of media and 9
10 environment. But this is an old story of technological hype, with advertising 10
11 serving as the main source of the mysticism. In Williams's words: 11
12

13 Advertising, in its modern forms, then operates to preserve the consumption 13
14 ideal from the criticism inexorably made of it by experience. If the 14
15 consumption of individual goods leaves that whole area of human need 15
16 unsatisfied, the attempt is made, by magic, to associate this consumption 16
17 with human desires to which it has no real reference. You do not only buy 17
18 an object: you buy social respect, discrimination, health, beauty, success, 18
19 power to control your environment. The magic obscures the real sources 19
20 of general satisfaction because their discovery would involve radical change 20
21 in the whole common way of life.⁴⁰ 21
22

23 Likewise for the philosopher Max Horkheimer: the supposedly resistant 23
24 consumer is susceptible to a new mastery, a new servitude, for those who 24
25 labour to serve and shape that consumer – who might otherwise be a different 25
26 kind of person in another role.⁴¹ Meanwhile, marketers delight in selling digital 26
27 media as an historical arrival of a 'New TV Ecosystem'.⁴² 27
28

28 *Labour* 28 29

30 This encourages us to think about the media in terms of work and the 30
31 environment, as per the contradictory situation of the Asturian strikers 31
32 confronted by right-wing green restructuring. The thought experiment 32
33 required by desire to support the miners that must confront the horror their 33
34 industry has wrought is also required to rethink the media as agents of material 34
35 impact rather than consciousness. 35

35 Since the 1970s, 'knowledge workers' have gained in status among 35
37 economists thanks to information-based industries that promise endless gains 37
38 in productivity and the purest of competitive markets.⁴³ They form what Joel 38
39 Kotkin calls an 'aristocracy of talent' elevated by the meritocratic discourse of 39
40 progress, informatisation and the 'creative industries', and luxuriate in ever- 40
41

1 changing techniques, technologies and networks. And because their work 1
2 is abstracted from physical, dirty labour they thrive in the twilight zone of 2
3 the technological sublime. On the left, Michael Hardt and Antonio Negri 3
4 graphically, romantically and inaccurately refer to the exchange of information, 4
5 knowledge and emotion by computer as ‘immaterial labor’.⁴⁴ Business people 5
6 love this form of talk, as they even dream up ‘virtual workers’.⁴⁵ Right-wing 6
7 futurist Alvin Toffler invented the related concept of ‘the cognitariat’, which 7
8 has since been taken up and redispersed by progressives; Negri more helpfully 8
9 uses it to describe people mired in contingent media work who have heady 9
10 educational qualifications and a grand facility with cultural technologies and 10
11 genres.⁴⁶ 11

12 This Pollyannaish decoupling perhaps reaches its acme in telecommuters, 12
13 who not only have paper-free offices, but office-free work. Like the defence 13
14 attorney Mickey Haller in Michael Connelly’s hardboiled Los Angeles novel 14
15 *The Brass Verdict*, who works in a Lincoln Town Car driven by an ex-client, they 15
16 operate from wires and cell-masts rather than buildings. But the net energy 16
17 benefit from telecommuting in the US is, at best, 0.4 per cent, for while people 17
18 no longer drive to work, they still live in suburbia and hence travel sizeable 18
19 distances to experience something resembling commercial and governmental 19
20 life, in addition to increasing their domestic power use.⁴⁷ 20

21 The ephemerality of place and environment in these accounts of elite 21
22 knowledge workers on the move could divert us away from the militant 22
23 particularism that brings the labour and lives of communities into sharp relief. 23
24 Williams thought about this. He suggested the term ‘mobile privatisation’ to 24
25 capture the paradoxical feelings of being distinct from others yet capable of 25
26 continuous connection with them.⁴⁸ For Williams, the automobile, radio and 26
27 television epitomised mobile privatisation – they were industrial forms suitable 27
28 for the social regulation of populations in the name of individual freedom 28
29 that twentieth-century capitalism necessitated. Today, the technology that best 29
30 exemplifies the social condition of mobile privatisation is the mobile phone, 30
31 which derives its appeal from political-economic arrangements that have seen 31
32 a rise in two-income families, increased commute time and other characteristics 32
33 of an overworked, debt-ridden, divided society.⁴⁹ 33

34 Materialist studies of labour and culture must go further into the ecological 34
35 history and environmental risks associated with work in media technology. 35
35 Since the age of print, media technologies have needed and emitted toxic 35
37 substances, creating modern risks to ecosystems and workers. Print workers, 37
38 past and present, must contend with poisons from solvents, inks, fumes, dust 38
39 and tainted wastewaters. Similar conditions affected workers in film-stock 39
40 manufacture, where cotton dust added the additional risk of ‘brown lung’. 40
41 Occupations involving batteries have historically been some of the most 41

1 dangerous, with exposure to lead and other pathogens causing fatal injury 1
2 to the lungs, skin and nervous system. These illnesses not only make battery 2
3 workers in the United States the top risk group in the world for lead poisoning, 3
4 but the expansion of production, salvage and recycling has extended the 4
5 problems around the world. The manufacture and disposal of plastics have 5
6 caused increasingly greater damage, with brain, liver, kidney and stomach 6
7 cancer associated with carcinogenic dioxin and hydrochloric acid released into 7
8 the environment. Plastic flotsam accumulating in the open waters of the North 8
9 Pacific (nicknamed the great Pacific garbage patch), North Atlantic and Indian 9
10 Ocean have threatened habitats and drawn attention to the unthinking habits 10
11 of consumers addicted to plastic, which is recyclable but not biodegradable – 11
12 it breaks down into ever smaller fragments but isn't absorbed into the Earth's 12
13 sink and can last for thousands of years. And microwave communication 13
14 workers can suffer from 'chronic exposure syndrome', and there is growing 14
15 concern with lower-level radiation emitted from televisions, computers, 15
16 electronic games, computer monitors, mobile phones, laptops, networks of 16
17 telecommunication and electrical towers and power lines. Biothermal risks 17
18 exist for workers continuously exposed to radio, TV and telecommunication 18
19 equipment, as well as high-rise office workers near high-power transmission 19
20 antennae.⁵⁰ 20

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22

23 **Conclusion: i-Thing, I Think I Love You. But I Want to Know for Sure** 23

24
25 As we drafted this essay, the latest in Apple's retinue of innovations was upon 25
26 us via the iPhone 5 – the supply of new designs from the company seems 26
27 unlimited, along with its ability to stimulate demand and over-production 27
28 through imitation as the supposedly 'virtuous circle' sees expensive prototypes 28
29 copied by other firms more cheaply once a market has been established.⁵¹ 29
30 Whether in the form of a phone, tablet, or computer, the new model will 30
31 inevitably arrive in a sleek, minimalist package of wonder that offers to 31
32 transport people across time and space. This bit of magic is precisely how 32
33 corporations sell high-tech products – they promise transcendence from both 33
34 our present world and technology's dirty industrial origins.⁵² 34

35 Apple clearly exercises a special hold on much of the public imagination, 35
35 but there is a wider question here about the belief we outlined earlier that new 35
37 and enduring freedoms and pleasures accompany digital gadgetry, particularly 37
38 via mobile privatisation. That faith makes it especially difficult to find a secular 38
39 view of technology, one that refutes the totemic, quasi-sacred power that 39
40 industrial societies have all too frequently ascribed to modern machinery – 40
41 an old, old story that, as we have seen, ironically reappears, albeit with new 41

actors, on a routine basis. Williams's insistence on the historical materiality of communications is a valuable corrective.

We can shake off the magic if we treat innovation sceptically, questioning the planned obsolescence that confuses an abundance of i-things with wellbeing and creativity. We would gain something in return: a connection to the present where we can comprehend the deplorable working conditions that bring these high-tech wonders into the world and the ecological impact of such cool stuff. Cultural materialism shows a way.

In this article, we have revisited Raymond Williams's cultural materialism to expand the 'ecological argument' via biosphere perspectives, linking local ecological catastrophes to global environmental realities. We have tried to honour Williams's socialist ethico-political commitments to labour and his idea of militant particularism while pressing for a deeper analysis of the eco-crisis and forms of labour that contribute to it. This presented a number of arguments against a narrowly consumerist, or neoliberal, view of cultural materialism, and provided opportunities to illustrate what an eco-materialist study of culture might bring. As the Spanish miners understood, the greening of industrial political economies is a strife-ridden, transformational moment that calls on worker participation to move livelihoods and cultural norms toward a society of sustainability. The challenge posed by the militant miners of Asturias and other working-class communities facing similar transformations might just be the most productive place for eco-cultural materialism to ply its trade.

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