What is brain pollution?

A Public Health Information briefing about the dangers of advertising by the Ministry for the Climate Emergency on tackling the least understood public health crisis.
We all have Brain Pollution.

We must act now before it is too late for us and the climate emergency.

Key areas included in this briefing:

- What is brain pollution?
- How big is the problem?
- Why does it matter?
- Who is responsible?
- What can be done about it?

Read on to find out how advertising is promoting our climate crisis.

What is Brain Pollution?

We’ve all heard of the disastrous effects of noise and air pollution for human health and the planet but what about brain pollution? Brain pollution is the term for the well established but poorly recognised effects that advertising has on human health and well-being, as well as the choices people make and their consequences. For these reasons, the Ministry for the Climate Emergency has produced this briefing to raise awareness and outline the options for actions to tackle brain pollution.

We no longer see once common adverts with smiling doctors, cigarette in hand, encouraging us to smoke, but there are many adverts that encourage people and whole economies to smoke in a different way, by promoting high carbon lifestyles. This is how the brain pollution of advertising has a climate and ecological impact. But the Ministry for the Climate Emergency is also concerned about other impacts on people.

Extensive scientific research shows that when exposed to advertising people “buy into” the materialistic values and goals it encourages. When this happens they report lower levels of personal well-being, experience conflict in relationships, engage in fewer positive, social behaviours, and it has detrimental effects on study and work. The more that people prioritise materialistic values and goals, the less they embrace positive attitudes about the environment and the more likely they are to behave in damaging ways.

As a result of exposure to brain pollution, people place more value on consuming what they see advertised and less on the time for things like playing sports, or with children or chatting with friends and family. In other words, brain pollution makes people want to work, shop, and consume relatively more than to rest, recreate, and relate with others - making us less enjoyable to be around as friends and family members.

More shocking still, the latest findings from neuroscience reveal that advertising goes as far as lodging itself in the brain, rewiring it by forming physical structures and causing permanent change. Brands which have been made familiar through advertising have a strong influence on the choices people make. Under MRI scans the logos of recognisable car brands are shown to activate a single region of the brain in the medial prefrontal cortex related to familiar logo recognition.

Brands and logos have also been shown to generate strong preferences between virtually identical products, such as in the case of sweet, fizzy drinks. Under anonymous testing people responded equally, but cued by the drinks branding measured responses in the ventromedial prefrontal cortex and expressed preferences were very different. Researchers conclude that ‘there are visual images and advertising messages that have insinuated themselves into the nervous systems of humans.’

“If an ad does not modify the brains of the intended audience, then it has not worked”

Researchers have known for decades that, ‘Scary as it may sound, if an ad does not modify the brains of the intended audience, then it has not worked.’ How we respond to an advert is ‘what the ad leaves behind.’ Through a combination of experience and exposure to advertising, connected to emotional responses, brands and their logos become more ‘mentally available’, this happens through the development of new neural pathways which are reinforced by repeated exposure. Still other research demonstrates how exposure to different brands can influence the behaviour of people, for example making them behave more or less creatively, and more or less honestly. Customisable tools for neural profiling are now available to test the effectiveness of brands and logos on consumers.
Advertising is everywhere. No one can escape from its grasp. Its pervasive intrusion into our daily lives - and brains - is exactly what makes it so powerful and effective. Advertising is so prevalent that we don't actively notice it anymore, so we are passively exposed to its messages and influences. In 2017, an individual in the UK was exposed to between 4000-10,000 adverts daily - roughly since 2007 - with the advent of digital advertising. The number of data points recorded by ad tech firms on children by the time they reach age 3 has increased between 4000-10,000 adverts daily.

As we've seen, the detrimental impacts of advertising's brain pollution on mental health, human behaviour and relationships are well established. The pursuit of profits - rather than the well-being of the wider public - drives individuals' well-being. Advertising in the 21st century is no longer just about selling products; it's about selling us. 

When brain pollution enters the human body (which it does via advertising), it acts like a virus that triggers feelings of inadequacy and exploitation - not just in the models who are being dressed or at women in particular, but broadly in the population by promoting false narratives of beauty and success. This is possible to reach by buying this or that product.11

In studies, brain pollution is also seen to contaminate the news media as well, as news outlets no longer have the same degree of control over the information they disseminate. It changes the way people think about events, and it influences how they make decisions about those events.2

Modern marketing and advertising techniques, developed from ear training propaganda methods, go back at least to the early 20th century. Amplified by the proliferation of media channels over the following decades together with new digital technologies, they have created a whole new media world that Kasser et al. (2020) call “the attention economy,” where human attention is now treated as a commodity by marketers and ad agencies.

Advertising occupies our everyday lives, whether in our private sphere watching TV, listening to the radio, reading newspapers and magazines, opening the mail, browsing the internet or social media. Social media channels like Instagram and the whole phenomenon of “influencers” are now rife with these advertisements. The number of ads we are exposed to on a daily basis is difficult to quantify, with estimates ranging anywhere between 4000-10,000 adverts daily. The number of data points recorded by ad tech firms on children by the time they reach age 3 has increased.

When it comes to regulating advertising, national regulatory bodies are in charge of policing commercial adverts and ensuring that adverts meet their codes of conduct and guidelines. But instead of providing safeguards against the potential detrimental impacts of advertising on human wellbeing and nature - research shows that these bodies too often are enabling brain pollution. Would you trust health professionals charged with reducing the risks and harms of our lifestyles, to give reassurance to a body included members of the tobacco industry?12 This means that even those in the advertising industry are regulated - the Advertising Standards Authority (ASA). Representations of the industry are effectively allowed to police the rules for themselves. These codes are far from being adapted to changed political and social contexts or new urgent challenges, such as climate change. For instance, they are not taking into account the effects of advertising on mental health, as major players in the car industry, and even energy providers. Advertising regulators have only announced plans to develop new codes, but so far no regulations have been enforced to restrict greenhouse gas emissions.

When it comes to planning regulations on advertising in the public sphere with physical billboards populating our towns and cities, the US and the UK have different laws that are not to forget ad agencies' latest trick - digital screens - which are even more addictive.3

Advertising's presence is often subtle and its strategies to target a young audience are even more refined. Research shows that children are now at the mercy of so-called “surveillance advertising.”4 It is estimated that by the time a child turns thirteen, retail firms would have gathered an astonishing 72 million data points on them.5 Latest research reveals that 820 million profiles of children in the UK are being broadcast daily through online advertising on social media.

The more data collected from an early age, the easier it is for advertisers to turn young children into consumer targets.

The process for removing harmful advertising is particularly slow, therefore advertising, which is often cited as one of the key drivers of consumerism, makes it hard to instigate change. "Do not actively notice it anymore so we are passively exposed to its messages and influences.

Governments and local authorities can use their regulations to reduce brain pollution and stop advertising fuelling the climate emergency. Several cities across the world, such as Amsterdam, Brondes, Stuttgard, and others - exactly the kind of behaviours on display.

Adverts promoting large, high-pollution "sports utility vehicles" (SUVs) have risen. In 2018, car maker Ford repeatedly spent 85% of its advertising budget promoting SUVs and light trucks in the USA, from 35% just five years earlier.6 In 2017 the International Environment Agency (IEA) noted that advertisements for SUVs were the second biggest cause of CO2 emissions (after power generation, but ahead of agriculture and heavy industry).7 This type of advertising is not only fuelling our climate and nature crises but also increasing the burning of fossil fuels which causes our towns and cities and whose air pollution in total was responsible for an estimated 8.7 million deaths annually as a result of air pollution from burning fossil fuels.

The New Weather Institute (newweather.org) to raise awareness of products and services and the sector is getting bigger. But overconsumption of superfluous, non-essential goods is driving planetary destruction.8 Polluting, high-carbon, consumer lifestyles promoted by the advertising industry are obstacles towards the transition to locations and ecological targets.9 Advertising promotes large and privileged. It allows us to enjoy being watched. The feeling of being watched.


Chan, H-Y ., Boksem, M., Smidts, A., 2018. Neural Profiling of Brands: Mapping the New Weather Institute (newweather.org) to raise awareness of products and services and the sector is getting bigger. But overconsumption of superfluous, non-essential goods is driving planetary destruction.9 Advertising promotes large and privileged. It allows us to enjoy being watched. The feeling of being watched.


10,000

$35.5 Billion

spent on car ads in 2018 globally

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Major Brain Polluters of London

London is a major centre for the advertising industry. Several advertising agencies have multiple major polluters as clients. This map shows a selection of some of the more prominent ones and with a range of the polluter companies they work for according to adbrands.net.

1. Adam&Eve
   Clients include: Exxon Mobil, Volkswagen

2. Wunderman Thompson
   Clients include: Shell, HSBC

3. Mindshare
   Clients include: BP, Gazprom, Black Rock

4. Havas Media Group
   Clients include: BP, Heathrow, Total Energies

5. McCann
   Clients include: Barclays

6. Mediacom
   Clients include: Ryanair, KLM, Shell

7. UM
   Clients include: Emirates, Exxon Mobil, Statoil

8. Wavemaker
   Clients include: Heathrow, Chevron, Texaco

9. Ogilvy
   Clients include: BP, HSBC

OMD
Clients include: Barclays, Easy Jet

PHD
Clients include: Virgin Atlantic, HSBC

AMV BBDO
Clients include: Exxon Mobil
It’s not a tumour. It’s an advert...

Find out how advertising is affecting your brain and promoting a climate crisis.

#BrainPollution badverts.org