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Air pollution rots our brains. Is that why we don't do anything about it?

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Human cognitive ability is being damaged not just by CO_2 and lead, but the way social media feeds us information, making us shockingly ill-equipped to clean up the air we breathe

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In Mike Judge's 2006 comedy, Idiocracy, the participants in an ill-fated cryogenics experiment awake 500 years in the future to discover that due to dysgenic mutation, anti-intellectualism and corporate capitalism the intelligence of the population has fallen to dangerous levels. The president is sponsored by fast-food chain Carl's Jr., and crops are failing because the fields are irrigated with energy drinks. The film was abandoned by its studio and largely ignored at the box office, but its subsequent cult status might be in danger once again, this time from the overbearing reality of present events.

Researchers from Beijing University and Yale School of Health published research last month showing that people who live in major cities - which is, today, most of us - are not only suffering from increases in respiratory illnesses and other chronic conditions due to air pollution, but are losing our cognitive functions. The study showed that high pollution levels lead to significant drops in test scores in language and arithmetic, with the impact on some

participants equivalent to losing several years of education. Other studies have shown that high air pollution is linked to premature birth, low birth weight, mental illness in children and dementia in the elderly.

We're only just beginning to understand how the air we breathe affects not just our physical environment, but our mental capacity as well. And the air we breathe is changing in the long term, as well as the short. Rising carbon dioxide levels - the main driver of climate change - aren't just a hazard to the earth and other living creatures, they're also affecting our thinking. At higher levels, CO_2 clouds the mind: it makes us slower and less likely to develop new ideas, it degrades our ability to take in new information, change our minds, or formulate complex thoughts.

Global atmospheric CO_2 levels passed 400 parts per million in 2016, and despite global agreements to keep runaway climate change under control, little action has been taken. The very worst-case scenario - AKA business as usual, which is the track we're on - predicts atmospheric CO_2 concentration of 1,000ppm by 2100. At 1,000ppm, human cognitive ability drops by 21%.

This isn't merely a problem for the future - as if that would make it better. As we come to understand more about the effects of CO_2, we have been measuring more of it, and finding that as it increases outside, it increases inside, too. Outdoor CO_2 already reaches 500ppm regularly in industrial cities; indoors, in poorly ventilated homes or school workplaces, it can regularly exceed 1,000ppm. A study of bedrooms in Denmark found that overnight concentrations of CO_2 exceeded 2,000ppm, with measurable effects on student's performance the following day.

Schools in California and Texas, when measured in 2012, regularly exceeded 2,000ppm in the daytime. And the kind of "green" insulation used to improve the heat retention of buildings - a climate change mitigation process - also raises the levels of CO_2 trapped inside.

Even if we meet the most stringent targets set at the Paris agreements in 2015, 2100 will bring atmospheric CO_2 levels of 660ppm - with around a 15% decrease in average brainpower. It's possibly one of the most tragic ironies of the whole sorry business that climate change is making it harder for us to think, just when we need new and bold ideas to deal with its effects.

Rather than taking action to mitigate this process, we find case and case again of companies actively trying to increase emissions. Volkswagen notoriously spent years creating complex, embedded software to bypass emissions tests, with the result that cars certified for use in the US actually emitted nitrogen oxide at 40 times the legal limit. In Europe, where the same "defeat devices" were found, and where thousands more of the vehicles were sold, it's been estimated that 1,200 people will die a decade earlier due to VW's emissions - and many more, as we now know, will have cognitive difficulties.

It's hard not to see an allegory between Volkswagen's manipulation of opaque technologies and the ways in which we are being manipulated more broadly by the largely unaccountable systems we engage with every day. Multiple studies have shown that the way in which social media regulates our information intake for profit leaves us more divided, less politically aware, and increasingly prejudiced and violent. YouTube recently suggested I should follow an archive clip of US anchorman Walter Cronkite warning about climate change all the way back in 1980, with a 30-minute conspiracy lecture titled How the Global Warming Scare Began. Mental pollution comes in many forms.

The US Environmental Protection Agency announced recently that it was reconsidering Obama-era rules governing the emission of mercury from coal-fired power plants. Symptoms

of mercury poisoning include emotional instability, insomnia, reduced cognitive function and memory loss. It was the use of mercury to stiffen hat brims that caused an epidemic of dementia among milliners in the 18th and 19th centuries, the origin of the phrase "mad as a hatter". It's hard to think of a measure better tuned to cancelling the future than raising the amount of mercury in the environment, or an act more in keeping with our times than intentionally increasing the recklessness, forgetfulness and stupidity of the population.

But then those in charge of our affairs currently have their own chemical load to shed. Since the 1980s, one common pollutant we have managed to curtail is lead, mostly by excluding it from paint, plumbing and petrol. As a result there has been a 4.5-point rise in IQ points in those born after 1985. Those who grew up in Europe and North America between 1965 and 1985 - the cohort who are running things right now - were regularly found to be carrying 20 micrograms per decilitre levels of lead in their bloodstream, which can lead to far greater levels of long-term cognitive impairment than those reported in studies of contemporary air pollution. If you want one simple explanation for the wildly differing political attitudes between current generations, and some of the irrational paths we seem hellbent on taking at present, you could do worse than take lead poisoning into account. Brain damage, it seems, is the one thing the baby boomers are willing to pass on to their kids.

. James Bridle is the author of New Dark Age: Technology and the End of the Future

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