Recognising and Coping with Misinformation and Disinformation

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People, organisations, communities, societies and humanity generally face multiple existential threats[1]. Many of them are the result of human activities, practices and priorities which are not sustainable, and our continued existence cannot be assumed. Hitherto, while efforts have been made to address certain risks, overall individual and collective responses to looming and inter-related threats have been inadequate. While dangers may be recognised, immediate issues sometimes push challenges such as global warming onto the 'to do' rather than 'action now' list. Short-term prospects are prioritised over longer-term health of the planet and its ecosystems. Future impacts are also heavily discounted. They fail to influence contemporary decisions to the extent that they should.

While privately recognising that 'business as usual' may not be an environmentally or socially responsible option, those who benefit from existing activities with negative externalities often act to protect and/or prolong them. Evidence and considerations that might weaken the case for action against their sources are consciously ignored and/or withheld. A

healthy scepticism and critical thinking are often required by decision-makers and the professionals who advise them. Groupthink, bias, misinformation and exaggerated and polarised views abound. The purpose of information and reports, the assumptions on which they are based, and the self and/or vested interests of their authors should be explored.

Inputs received can often be misleading. The numbers might look good or seem bearable, but an average may conceal significant variation, with certain locations or contexts being especially badly hit by a development or general trend. The right question can sometimes flush out areas that need attention and/or possible associated opportunities. When considering and prioritising risks, many people focus on those which are most likely to occur. Lower probability, but higher impact risks may be ignored. They might be difficult to handle when they crystallise, if by then needed resources are already devoted to more likely risks with less impact that were judged easier to manage.

Questioning and Discounting Claims and Expectations

Technology and other proposals, projects and investments are often 'over-sold'. Many do not deliver. While the beneficial potential of some technologies and projects may sometimes be missed, the prospects of many others are hyped, especially by their vendors and acquiring executives keen to add working with them to their CVs. The promise of an emerging breakthrough may be exaggerated to delay a decision to stop a polluting activity. Rather than grasp nettles, defenders of current operations and activities play the suggested contribution of a yet to be fully tested technology as a 'get out of jail' card. Decision-makers should be alert to such defensive strategies.

Assessments such as those of emerging technologies may reflect the perspectives of those who propound them. In some cases, views about them may be increasingly polarised. For those who sell them, or offer consultancy services based upon them, or seek investment to further develop them, emerging technologies are usually portrayed as potentially transformational. Those who could be disadvantaged by them may portray them as a possible danger and threat. Proponents of viewpoints often use selective data, examples, or opinions to support their case. Assessments undertaken by professionals should be balanced and reflect choices and the possible existence of both multiple benefits and various drawbacks.

Briefings to decision-makers may be protective and confirmatory, and not balanced or complete. For example, according to the report of a conference of the Royal Society in London, estimates of the economic consequences of climate change can miss the full impacts of extreme weather events, and the potential for cascading risks and triggering tipping points[2]. Climate change impacts on nature, natural capital and human health may be overlooked or ignored if the focus is on narrow economic consequences, rather than on adaptation, social and wider considerations.

Disaggregating Data and Discerning Meaning

Many professionals are regularly exposed to opinions, claims and counterclaims, misinformation and disinformation, and contending versions of reality propounded by a diversity of sources and motivated by self and vested interests or hostile intent[3]. Aggregate information they receive, in areas such as growth and employment, can conceal considerable diversity in its underlying components. Reports that cover global trends, may include national figures or league tables to aid comparisons. Media and political discussions are often at national levels. Local, sectoral, and corporate differences, and impacts can be overlooked.

Information and reports may deal with symptoms, conceal drivers, or obscure root causes. Instigators of repeated claims might be concealed and could be malevolent. Fake news, including that targeting a particular person, entity or campaign and about global risks, trends and existential threats, can easily be spread. It can complicate evidence-based reasoning. Summaries, slogans and sound bites can also oversimplify complex issues and mislead. Aims and intentions should be explored and polarised views filtered. Overall trends, averages and generalisations may not apply to a current situation and circumstances, and/or to specific challenges and opportunities faced.

The impacts of a general trend such as climate change and what needs to be done in response to ensure a sustainable future, or of applications of an emerging technology such as AI, are unlikely to affect all people, organisations, and communities in the same way. While many, if not most, may experience some inconvenience, others in locations vulnerable to fire, flood, inundation or drought, and sectors associated with fossil fuels, may be severely impacted. Differing short- and longer-term winners and losers will emerge, depending upon their agility, openness to opportunities and new possibilities, willingness to adapt, reskill and innovate, and entrepreneurial and collaborative reactions. Discussions about national policies and responses, sometimes overlook the diversity of local impacts and vulnerability.

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Some areas and locations might be affected more than others by required transitions, necessary transformation and collective responses to trends such as global warming. For example, transition away from fossil fuels may lead to high local unemployment, while reskilling and/or redeployment might depend upon available alternatives, infrastructures and resources, and the ability and capacity of community, regional and national authorities to cope. The costs and benefits of changes may be unequally shared. Social and economic support, the affordability of a minimum basic income and other measures, and reactions to mass migrations can also vary and reflect an area's resilience and stage of development.

Recognising Bias, Misinformation and Disinformation

Information, reports and papers decision-makers receive about environment and climate related issues may be unconsciously or intentionally biased for or against certain arguments, proposals or policies. Professional assessments of them may also be liable to confirmation bias, or the tendency of people to put more weight on evidence and views that agree, reflect and/or reenforce their existing beliefs, perspectives, values and/or views[4]. Unconscious bias, whether due to social background, ingrained habits, shared group preferences, upbringing, political views or prior experience, can distort opinions and result in under and overestimates, opportunities being missed, and warnings ignored.

A lack of diversity in potential influencing factors such as social and/or educational background when selection committees favour candidates like themselves can result in groupthink. It may also make a board more vulnerable to misinformation and disinformation, the top 'two-year' risk in terms of severity of impact in WEF's latest *Global Risks Report*[5]. Misinformation such as fake news on social media can be shared by those who do not realise its limitations. It might be created and spread by mistake, rather than with the intention to deceive which is the case with disinformation. Something that might be relevant and apply in one location or context, may not be applicable, correct or relevant in another.

Misinformation and disinformation are especially widespread in relation to environmental externalities and climate change, where a scientific consensus suggests action is urgently needed[6-8]. A range of special and vested interests actively seek to protect existing activities by frustrating efforts to cut carbon emissions and operate more sustainably to accelerate progress towards net zero. Various attempts are made to delay, disrupt, and/or frustrate steps to reduce and/or prevent damaging activities and negative externalities, and discredit, oppose and/or undermine initiatives, proposals and voices in favour of faster and more radical steps. What laggard tactics should one look for?

Delaying Required Environmental Action

Some opponents of proposed actions may question the need for them, their nature, scale and/or timing. They might suggest alternative courses of action, or that something else is the source of what has been identified as a problem. Despite an overwhelming scientific consensus that human activities are responsible for global warming and climate change, climate

deniers still exist. They may suggest natural cycles of various lengths as a collective root cause, stress the extent of large past variations of temperature and highlight the resilience of some natural systems. Sceptical scientists may be identified, approached and sponsored to produce counter arguments to calls for action that might gain traction and result in uncertainty.

Unproven and expensive technological solutions may be proposed by 'delayers' as alternatives to much needed and more certain impact steps to cut carbon emissions. Examples of rearguard actions, include the reluctance prior to COP28 to agree to transition away from fossil fuels, and the playing up of the prospects of certain technologies such as carbon capture and storage (CCS) to justify allowing fossil fuel extraction and use to continue. CCS projects often fail to reach their targets and additional energy is required to power them. Using immature technology to delay change can expose us to climate impacts, the costs of which may be underestimated.

Official media in democratic countries often like to present contending views. A contrarian opinion may get the same airtime as a more widely held position. Strident opinions may also achieve greater impact than more considered arguments. Some people and organisations exaggerate their efforts to protect or restore the environment. Greenwashing abounds. Despite attempts to encourage more accurate, transparent and responsible reporting, many disclosures that have not been subject to independent audit and verification are public relations exercises. People and organisations are presented in the most favourable possible light. Comments on social media are often not subjected to extensive or rapid facts checking procedures.

Some attempts to delay environment or climate action are portrayed as responsible. While accepting that action is required, questions are asked about their timing. The unwelcome consequences of proposed actions are highlighted. Attention may be drawn to vulnerable groups or communities likely to be disadvantaged. Allowing time to consider what might be done to help those affected could be suggested. This can all seem caring. Urgency is downplayed. The case for waiting to allow innovations to emerge that might provide less painful alternatives to scaling back and shutting down existing activities is put. Holding fire can also appeal to those who are already busy and not looking for extra work.

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Shifting and/or Repositioning the Spotlight

Another delaying response is to 'shift the spotlight' by suggesting that action by someone else or another party might be more appropriate. Comparisons might be made with other companies, sectors or countries that have higher greenhouse gas emissions. It is often a few companies or countries, or certain sectors, whose activities cause most harm. Perhaps the onus should be upon them to change. This can seem fair and/or proportionate, as might an argument against imposing much inconvenience, loss or pain for a limited gain. It could also be said that as businesses respond to customer demands, where and when this can be done at a profit, perhaps individuals must first change their aspirations, requirements and priorities.

An asymmetry is often at work, where the costs of proposed action to reduce emissions and negative externalities affect or would fall heavily on certain entities and their local communities, while their benefits would be spread more thinly

across the population generally. Delay may be advocated to allow options for a more equitable sharing of costs and benefits to be considered. More radical steps may be proposed that could be undertaken by other parties and might have greater impact. Longer lead times to enable smoother transitions and/or alternative arrangements to be considered can also appear reasonable and responsible.

Misrepresentation can include the portrayal of a genuine attempt to protect, safeguard or restore eco-systems and limit negative externalities as a conspiracy designed to undermine or attack the best interests of a company, sector or society. It may portray polluters or sources of damage or harm as a target or victim and suggest that their activities, which meet consumer demands, are needed, contribute to national objectives, and should not be controlled. In authoritarian societies constraints may be placed upon the freedoms and actions of those seeking to reduce environmental damage and global warming by steps that would decrease lucrative activities a regime depends upon and so seeks to encourage and protect.

Recognising Changing Opinions

Growing numbers of people are being impacted by negative impacts such as global warming which environment and climate action are designed to address. People sometimes change their opinions when they become more aware of how they as individuals or their companies and/or families might be affected. Addressing climate change and reducing extreme weather events can seem an imperative as flood waters rise and when wildfires are approaching. However, memories are sometimes short, especially when others are affected. As estimates of the cost of what needs to be done mount and awareness of likely disruption and inconvenience increases, it may appear a lower priority. Support can sometimes be shallow.

Emphasising the downsides, challenges and risks of change can sometimes encourage a rethink. Important stakeholders likely to be affected by what is being considered or proposed can also advocate caution. These could include key customers and/or influential investors. Updates on how others are reacting, criticism and media attention, news of competitor moves, changes of public policy, financial pressures and dire predictions could all precipitate a slowdown or pause. Existing opinions and positions should not be taken for granted. In some countries reaction against ESG and the scaling back of previous net zero plans has already occurred. Accusations are made that equivalent players are not pulling their weight.

Whether realists or defeatists, there may also be those who argue that it might already be too late to take effective action. Proposers of well-intentioned measures may have already missed the boat. It may become clear from certain scientific reports, regular meetings or conferences of the parties to an international treaty that commitments made are insufficient to prevent the triggering of any remaining tipping points after which global warming becomes unstoppable. Realities may suggest that collectively humankind has 'missed the boat'. Delayers and opponents of tougher climate action might capitalise on pessimism by arguing that people's current living standards should not be sacrificed in pursuit of aims that are not achievable.

Fragmentation and Polarisation of Views

Climate change is not the only issue on the agendas of many leaders, but for climate action delayers it might be a priority. Certain companies have long had a vested interest in opposing the phasing out of fossil fuels. For many years they argued that human contributions to global warming had either not been proved or were greatly overestimated. They often quoted the views of scientists and/or lobbying organisations whose activities they funded. Some far-right political parties have

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also been climate deniers or opposed to the cost of proposed actions to address climate change. Techniques to divide and undermine have been used. Significant use has also been made of social media and selected influencers to put their views.

As the use of social media has increased, the circulations and revenues of traditional media have fallen, making it more difficult for them to pay the salaries of journalists to investigate, facts check and produce in depth reports on selected topics. In contrast, the content of social media is provided by many of their users. Those with controversial, extreme and polarising views are especially welcome as they provoke others to respond, increasing visits and advertising revenues. Social media visitors may not have the inclination and time to read in depth articles. Confident statements of unsubstantiated claims seem to rule the roost. They result in polarisation and fragmentation that is seen in many parts of the world[5].

Many technology firms make money from misinformation on their platforms and social networks. It can be monetised and stimulates visits and interactions. There is little financial incentive to contain or root it out. Algorithms can be used to identify the views of social media users and present content that will reenforce them. Repetition and echoes of others repeating claims can make them seem more believable. Significant sums can be spent on persuasive advertising designed to encourage consumption while the means to supply the want created still exists. Responsible independent directors could ask executive colleagues how long certain necessary resources might still be available at current rates of their usage.

Embracing Responsible Leadership

The nature and scale of changes required to prevent the further extinction of species, the destruction of eco-systems and global warming, and the burdens this would impose upon others are such that cautious decision-makers may try to avoid moving too far ahead of the pack. While monitoring the activities and initiatives of others and doing just enough to comply with applicable legislation and relevant regulations, and satisfy ESG and other criteria, some players may prefer to follow rather than lead. While not wanting to fall behind or be labelled a laggard, they may feel exposed and vulnerable when too far out in front. How might efforts to delay and prevent responsible environmental and climate action be tackled?

A first step is to make people aware of the nature, extent and impact of bias, misinformation and disinformation, and help them to recognise them when they occur and understand their different forms and why they are used and by whom and for what purpose. They can be damaging to those targeted and to people they are trying to help. They can erode public trust and undermine codes of conduct, regulations, and changes that are necessary for the public good. They can also erode self-confidence and sow doubt. In some cases, they may delay or prevent necessary climate adaptation and mitigation and desirable and responsible reactions to environmental and climate change challenges, risks and existential threats.

The intentional use of AI techniques to create or digitally manipulate images and/or audio or video recordings to misrepresent, undermine or further a competing narrative can be especially insidious. Malevolent actors can use resulting deep fakes to attack competitors and discredit people and positions they oppose. They and the ever more convincing deep fakes they deploy can be difficult to detect. During a period of multiple elections in many parts of the world, democracies are especially at risk of interference from certain authoritarian

states. As with cyber-attacks, perpetrators can be difficult to track. They usually conceal their identities, may act through proxies and invariably deny any involvement.

Countering Fake News and Delaying Tactics

Refuting unsubstantiated claims with objective and science-based arguments may be difficult when those targeted have short attention spans and a preference for strongly stated opinions and clear positions. Balanced views with qualifications and supporting evidence might seem boring in comparison with bold if not outrageous claims. Messages should be tailored to those for whom they are intended. While certain forms of misinformation and disinformation might be countered by changes in the law and/or new regulations, some business leaders might be instinctively wary of such interventions, even though they may be necessary. Governments favouring a status-quo may not act against activities to preserve it.

Countering delaying tactics could begin with articulating a shared purpose related to operating sustainably and in harmony with the natural world to preserve a habitable planet and ensure the survival of humanity and a diversity of other species. Related behaviours could include following related principles and relevant codes of conduct, being authentic, open and transparent, and re-establishing or consolidating trust, including by subjecting data and positions taken to independent audit and scrutiny. Strategies, goals, stakeholders, policies, processes and practices should be aligned with the shared purpose. Responsible leaders offer hope to maintain order and encourage others with balanced, positive and justifiable communications. They recognise the need for immediate action on climate change.

Given widespread and short-term self and vested interests seeking to frustrate necessary action to ensure the planet remains habitable and limit global warming, responsible leaders may have to give countering bias, misinformation and disinformation a higher priority. Claims made should be evidence-based, truthful and verifiable. Comparisons with others and alternatives should be accurate and balanced. Actions and responses should be appropriate and proportionate. Efforts should be made to understand rather than conceal the full extent of impacts upon the environment and climate change by taking the activities of supply and value chain partners and the full life-cycle impact of offerings into account.

Changing Internal Practices

A challenge for those countering simplistic or erroneous views is the extent to which many challenges, issues, risks and threats are inter-connected and inter-related. Addressing one issue can sometimes 'fuel a fire' elsewhere. Like biases and predilections, environmentally harmful practices that businesses find they can 'get away with' can spread and be repeated in multiple locations and sectors. Labels such as the disposable or throw away society are applied to practices such as encouraging items to be replaced before they come to the end of their useful lives, or manufacturing offerings with certain elements designed to fail long before others, with replacement purchases rather than repair suggested.

Built in obsolescence, frequent model changes, limiting the availability of spare parts, stopping the support of older versions and persuading consumers and users to be 'fashionable' and seen with the latest version of an offering can all encourage churn, boost sales, consume resources and add to waste. Responsible leadership, communications and legislation and/or fiscal incentives could all encourage the recycling of more categories of manufactured goods. Items could be designed so that they could easily be disassembled or taken apart to enable them to be repaired, re-used, replaced and/or upgraded. This might increase their appeal among new generations of environmentally conscious consumers.

Allies and supporters can help people and organisations to focus on environment and climate action and cope with a rising global population. There may be responsible campaigners or circular economy experts with whom one could work. The EU has various actions in its circular economy plan, and measures in proposed directives might have potential relevance and applicability in further jurisdictions. Learning from other

locations can help to dispel the protestations of delayers that practical options do not exist. Indigenous people who live in harmony with the natural world might have a role to play in education, or as advisers in introducing biodiversity into monocultures and sustainable environmental management.

Collaboration and Collective Action

Collaboration can be an effective counter to those who suggest that by itself a company could not do enough to address existential threats and enable transition to more resilient, sustainable and inclusive activities and lifestyles. It may need to be international. Defensive strategies to slow or prevent unwelcome proposals for change, sometimes just shift problems rather than tackle them. Activities that produce environmentally harmful emissions in locations with tightening controls can be moved offshore to where there is lighter touch regulation. Waste is transported to remote islands and/or combustible waste is burned where only the poor and marginalised without a voice may be affected by the toxic fumes. Connection with people 'on the ground' and global collaboration may enable such practices to be exposed and tackled.

Contrarian thinking, and a change of direction might be required to make colleagues aware of the dangers of bias and groupthink. For example, their creators, providers and beneficiaries advocate the ever more widespread use of digital technologies which is rapidly increasing the power demand of data centres worldwide. How much of this derives from renewable sources? For how much longer will the mineral and other resources that our technologies require still be available? In many contexts and for the future of humanity, thinking and responsible decision-makers who exercise independent judgement and provide challenge might represent a last and critical line of defence. Coping with misinformation and disinformation is especially important for the professionals upon whose advice and counsel they depend.

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