RESEARCH ARTICLE

Addressing sustainable development goals for confronting climate change: Insights and summary solutions in the stress stupidity system

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Abstract
We employ the concept of stupidity to address why more has not been done to address climate change and sustainable development. While the 'new' science of stupid has long existed in organizational studies, academicians have been too polite to call it that and organizational researchers historically labeled it the 'threat-rigidity effect.' With Alvesson and Spicer's 'stupidity-based theory of organizations' management researchers overcame this reluctance. In this work we explore what we will call the 'stress-stupidity system.' Building on the threat-rigidity effect, we outline the elements of the stress-stupidity system and look at how we may be able to 'fix stupid' to address issues of sustainability.

Climate activist Greta Thunberg has pointed out, 'The climate crisis has already been solved… We already have all the facts and solutions… All we have to do is to wake up and change' (Caldwell, 2019: para. 8). So why are we still asleep? Why are we not changing? In spite of being Time magazine's Person of Year, are we unwilling to accept the decrees of a high-school student? How about the words of United Nation's Secretary General António Guterres? In March 2018, he called climate change 'the most systemic threat to humankind' (Sengupta, 2018: para. 2). Guterres has gone on to urge world leaders to curb their countries' greenhouse gas emissions. Our failure to be awake to such appeals and take more timely actions points out an almost inexplicable disinclination of corporate and government leaders to make sufficient change on a broader scale to forestall an environmental doomsday.

This causes several questions to present themselves that will be addressed below. One, what is the climate crisis, what is sustainable development, how do the two concepts relate to each other, and where do the United Nation's Sustainable Development Goals fit with addressing climate change issues? Two, are Sustainable Development Goals being stalled by organizational and government inaction that may be attributable to what researchers have labeled 'stupidity'? As well, what do we mean by 'stupidity' in this context. Finally, can we find cures for 'stupidity' in addressing climate change and sustainable development issues?

The Climate Crisis and Sustainable Development

Separately, the climate crisis and sustainable development are critical elements in humanity's fate. As well, their interrelationships are of vital importance.

The climate crisis

According to NASA scientists 'climate is the description of the long-term pattern of weather' (Dunbar, 2005: para. 12). Weather is, 'the way the atmosphere is behaving, mainly with respect to its effects upon life and human activities' (Dunbar, 2005: para. 5). A crisis 'entails a threat to… the functioning of life-sustaining systems, which must be urgently dealt with under conditions of deep uncertainty' (Rosenthal, Boin, & Comfort, 2001: 7).

To address the potential for crisis regarding climate change, the United Nations promulgated the *Framework Convention on Climate Change* (Leiserowitz, 2005). 'The ultimate objective of the Convention is to stabilize greenhouse gas concentrations 'at a level that would prevent dangerous anthropogenic (human induced) interference with the climate system'' (United Nations, 1992: para. 4). To state this concisely, we can say that facing the climate crisis means addressing interference in the climate system caused by humanity.

The 'crisis' part of the climate crisis has, in the past, been less obvious. Unger (2000) notes that to realize that a crisis is upon us is that an issue must overcome the 'knowledge-ignorance paradox' and be a 'hot crisis' (p. 297). The 'knowledge-ignorance paradox' is where the growth of specialized knowledge results in a concurrent increase in people being more-and-more ignorant of the needed knowledge to address the issue at hand. It can be overcome via engendering some public understanding and concern, as well as encouragement of knowledge acquisition with easy-to-understand bridging metaphors. Global climate change is abstract until it creates a Hurricane Sandy and closes the New York Stock Exchange for two trading days in late October 2012 – the first time weather had closed the exchange for more than a day in 127 years (O'Brien, 2014). Unger's 'hot crisis' is that the issue provides a sense of immediate and concrete risk with everyday relevance. In this sense, Greta Thunberg, in calling for a strike to address climate change makes the topic hot: it brings the issue up as a daily and ongoing concern. Addressing these issues then becomes paramount and thus creates the dilemma as to how to balance human needs for economic growth and a survivable climate via sustainable development.

Sustainable development

For business and government desires for economic development to co-exist with an environment in peril we have come to accept the concept of sustainable development. The classic definition of sustainable development by the Brundtland Commission (1987) is that 'Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs' (Chapter 2, para. 1). The phrase 'Sustainable development… [has become] the most widely accepted starting point for scholars and practitioners concerned with environment and development dilemmas' (Sneddon, Howarth, & Norgaard, 2006: 255).

Also, there are alternative perspectives for addressing climate change, for example, Banuri (1999) suggests 'welfare optimization' and 'resilience and durability' (pp. 4–5). Though, such a comparative discussion is beyond the scope of the dialog here. As well, former Deputy Executive Secretary for the UN Climate Change Secretariat, Richard Kinley (2006), notes that, 'sustainable development has won almost universal acceptance as a principle' (paras. 3–4). He further notes that, 'dealing with climate change is a precondition for sustainable development,' and that 'climate change is the ultimate sustainable development issue.'

Citing the Brundtland Commission (1987), Robert, Parris, and Leiserowitz (2005) broadly address the question, 'What is sustainable development?' (p. 10). This broadly breaks down into two simple issues: (1) 'what is to be sustained' and (2) 'what is to be developed?' Three major categories are to be sustained: 'nature, life support systems, and community – as well as intermediate categories for each, such as Earth, environment, and cultures.' Similarly, three major categories are to be developed: 'people, economy, and society…[including] economic

development, with productive sectors providing employment, desired consumption, and wealth.' Thus, although sustainability may be seen as ecological considerations and development economic ones (Daly, 1996), the idea of development has evolved to include human development – Robert, Parris, and Leiserowitz (2005) include 'increased life expectancy, education, equity, and opportunity' (p. 10). A failure to create a sustainable society may create ecological collapse, a failure to develop may create economic collapse, and a failure to do both will create a global collapse endangering both people and places.

Climate change and sustainable development are inexorably intertwined. So much so that climate change issues compose a great deal of the United Nations' sustainable development goals. This is discussed in greater detail below.

The relationship between the climate crisis and sustainable development

As noted in the *Third Assessment Report* of the Intergovernmental Panel on Climate Change (2001), 'Climate change decision making is essentially a sequential process under general uncertainty. Decision making has to deal with uncertainties including… balancing the risks of either insufficient or excessive action, and involves careful consideration of… consequences (both environmental and economic)' (p. 3). This means that decision makers need to balance climate considerations and sustainable development. Halsnæs and Verhagen (2007) note that *Third Assessment Report* specifically 'recognized the importance of understanding the relationship between sustainable development and climate change' (p. 678). More exactly they note that, 'the climate change issue is part of the larger challenge of sustainable development (Intergovernmental Panel on Climate Change, 2001: 2).'

Thus, the uncertainties noted in *Third Assessment Report* mean that decision makers are potentially stepping into the realm where even the best-educated analysis may be insufficient to come to an optimal assessment. As such, climate change decisions that are made as part of a sustainable development effort may fail to create either positive impacts for climate or sustainable development. In other words, as we will discuss below, the likelihood that a sustainable development decision may end up being a stupid one is quite possible.

Fit between UN sustainable development goals and climate change issues

United Nations sustainable development goals cover four basic needs (food security, poverty reduction, health, and education) and three equality and justice items (gender empowerment, equality, and peace with capable institutions) each (United Nations Department of Public Information, 2015). There are also three economic issues (work and economic growth, industry and infrastructure, and cross-government partnerships to achieve goals). The remaining seven address climate and environmental livability. These seven (water and sanitation, energy, sustainable communities, responsible consumption and production, climate, marine resources, and ecosystems/biodiversity) are summarized in Table 1.

How sustainable development goals get blocked by stupidity

The Organization for Economic Co-operation and Development (OECD) provides guidelines on needed investment in climate-resilient infrastructure (OECD, 2018). To the extent that we are not making those investments something is blocking those actions. We will propose that this dilemma is based on stupidity.

Blocked goals

'In 2014, the world invested $391 billion in low-carbon and climate-resilient infrastructure' (Walsh, 2015: para. 3). To reach sustainable development goals, the number should have been

Table 1. Precis of UN sustainable development goals for climate and environmental livability

Clean Water and Sanitation (Goal 6)

- Universal equitable access to safe affordable drinking water sanitation and hygiene.
- Reduce pollution/untreated wastewater; minimize hazardous materials release; increase recycling.
- Increase water-use efficiency and ensure sustainable withdrawals and supply of freshwater.
- Implement integrated water resources management, with appropriate transboundary cooperation.
- Protect/restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers.

Affordable and Clean Energy (Goal 7)

- Expand infrastructure, upgrade tech. for sustainable energy service supply in developing countries.
- Ensure universal access to affordable, reliable, modern energy services; increase renewable energy share of in the global energy mix/double the global rate of improvement in energy efficiency.
- Facilitate international cooperation, access to clean energy R&D and tech., cleaner fossil-fuel tech. renewable energy, energy efficiency, and investment in energy infrastructure/clean energy tech.

Sustainable Cities and Communities (Goal 11)

- Ensure access to adequate safe affordable housing/services; aid local material green building.
- Provide access to safe affordable accessible sustainable transport systems; improve road safety.
- Reduce adverse per capita environmental impact of cities with great attention waste management.
- Strengthen national/regional planning to support positive economic social and environmental links.
- Reduce numbers affected by and losses from disasters by executing integrated policies of inclusion, resource efficiency, climate change adaptation, disaster resilience, and disaster risk management.
- Boost inclusive sustainable participatory integrated human settlement mgmt.; safe universal access. to inclusive accessible green and public spaces; further efforts to protect cultural and natural heritage.

Responsible Consumption and Production (Goal 12)

- Achieve sustainable efficient natural resource use/reduce per capita global food waste and loss.
- Substantially reduce waste generation through prevention, reduction, recycling and reuse.
- Encourage firms to adopt sustainable practices; integrate sustainability info. into reporting cycles.
- Achieve sound waste mgmt. and sustainable public procurement; help LDCs raise scientific ability for sustainable consumption/production; ensure relevant info. for sustainable lifestyle growth.
- Implement tools to monitor sustainable tourism that creates jobs/promotes local culture and goods.
- Remove fossil-fuel subsidies, market and tax distortions that encourage consumption.

Climate Action (Goal 13)

- Strengthen resilience/adaptive capacity to climate-related hazards/natural disasters worldwide.
- Integrate climate change measures into national policies, strategies and planning.
- Raise capacity for real climate change-related plans/management in least developed countries.
- Improve education/awareness on climate change mitigation/impact reduction early warning.
- Implement commitment by developed-countries to capitalize the Green Climate Fund.

Marine Resources (Goal 14)

- Reduce marine pollution by land-based activities including marine debris and nutrient pollution.
- Minimize/address impacts of ocean acidification, including by enhanced scientific cooperation.
- Effectively regulate fish harvesting/execute management plans to restore sustainable fish stocks.
- Provide access to marine resources/markets for small-scale fishers; conserve coastal marine areas.
- Stop fishery subsidies contributing to overfishing with differential developing country treatment.
- Sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts.

- Foster scientific know-how; transfer marine tech. to improve ocean health and marine biodiversity.
- Up LDCs econ. benefit from sustainable marine resources by fisheries mgmt. aquaculture, tourism.

Ecosystems and Biodiversity (Goal 15)

- Conserve restore and aid sustainable use of inland water ecosystems forests lands and mountains.
- Promote implementing sustainable forest management halt deforestation increase reforestation.
- Combat desertification, restore degraded land and soil/ensure mountain ecosystem conservation.
- Take action to reduce natural habitat degradation, halt biodiversity loss, protect threatened species.
- End protected species poaching and trafficking; increase capacity to pursue sustainable livelihoods.
- Finance resources to sustain biodiversity, ecosystems, forest mgmt.; conservation and reforestation.
- Intro. measures to reduce invasive species impact; promote equitable sharing; access benefits from utilizing genetic resources; integrate ecosystem/biodiversity values into poverty reduction.

Source. UN Sustainable Development Goals. Compiled from https://sustainabledevelopment.un.org/?menu=1300.

an order of magnitude higher: 7 trillion dollars. By 2017, the situation had improved and spending on global climate-related primary investment improved to $612 billion. This is less than a third of what spending should be to keep global warming under 1.5°C and is being far outstripped by fossil fuel investment (Buchner et al., 2019).

Goals blocked by stupidity

We thus know that there is a crisis. We know that there are actions that we can take to avoid the worsening of the crisis. We know we are not taking those actions. Are we being stupid? We may have more polite terms for inaction toward a sustainable future, but perhaps 'stupidity' is an appealing one.

What is Stupidity

To address 'stupidity' and how it is maintained in organizations and institutions, we will first look at the recent psychological underpinnings of the 'science of stupid.' Then we outline recent organizational applications to 'functional stupidity,' and what organizational researchers have called the 'threat-rigidity effect.' We then discuss what we consider humanity's biggest threat to our future and our ability to sustain our lives on this planet: what we call the 'stress–stupidity system.' Building on these research streams, we outline the elements of the stress–stupidity system.

Stupidity is not simply failing to properly handle complexity. To deal with uncertainty and complexity requires bounded rationally. Thus, decisions are rational within the limits of available information and mental processing capabilities (Simon, 1957). Stupidity, as we shall see, does not require such analysis: decision makers are confidently ignorant, fail to adequately attend to the conditions at hand and lack impulse control.

Identifiable stupidity: stupid is as stupid does

To label something as 'stupid' is not simply name-calling. People have something specific in mind if they use this term. Aczel, Palfi, and Kekecs' (2015) analysis of what people label as 'stupid' is an intuitively functional one, that is, to take Forrest Gump's line, 'Stupid is as stupid does' (Pappas, 2015: 1). This is to say that we have an intuitive understanding of what 'stupid' looks like. To quote U.S. Supreme Court Justice Potter Stewart to describe his test for obscenity he wrote: 'I shall not today attempt further to define the kinds of material I understand to be embraced within that shorthand description… But I know it when I see it…' (Gewirtz, 1996: 1023). In an analysis of

people's response to a range of ill-considered actions Aczel, Palfi, and Kekecs (2015) found that people employed the label 'stupid' in identifying three separate types of scenarios. One, stupid is *confident ignorance* or a failure to maintain a balance between confidence and abilities. Two, stupid is absentminded *failure of attention* or lack of practically. Finally, stupid is *lack of impulse control.*

Confident ignorance

Pomeroy (2015) describes confident ignorance as an actor that takes high risks whereas lacking the needed skills to perform the action. Take the extreme case of serial killer Aileen Wuornos. At various times she applied to be a lawyer and a police officer (Arrigo & Griffin, 2004). This was despite having an IQ just above impairment, no formal schooling or experience, and an extensive liaison with the wrong side of the law (Arrigo & Griffin, 2004; Myers, Gooch, & Meloy, 2005). Had her knowledge of the law been as good as she believed, she may have been able to stop running afoul of it. Basically, this is not just a circumstance of being ignorant of one's own ignorance – the 'Dunning–Kruger effect' (Dunning, 2011; Kruger & Dunning, 1999) – but being more certain about one's abilities in spite of being presented with evidence to the contrary.

A more public example was when, in a debate with Hillary Clinton, Donald Trump 'blamed her, as a senator, for allowing him to get away with paying no taxes. He made his accusation with the smug certainty of the uninformed. He had no idea… fiscal bills originated in the House, not the Senate' (Grigsby, 2018: para. 8). Moreover, 'he didn't know that he didn't know' (Grigsby, 2018: para. 8). Such Confident ignorance has continued well into his term with claims that 'he has 'total' authority to order states to relax social distancing to combat the novel coronavirus outbreak and reopen their economies' (Jacobs, Sink, & Mohsin, 2020: para. 1); a power that belongs to the states and not the federal government.

In addition, Rollwage, Doland, and Fleming (2018) found that people holding radical beliefs (both liberal and conservative) were more likely to experience metacognitive failures. The more radical participants in their study not only displayed less insight into the correctness of their objective perceptual choices, but they reduced updating of their confidence when presented with post-decision evidence. Their subjects looked at two different clusters of dots to identify which group had more. They then rated how confident they were in their choice. People with radical political opinions completed this exercise with much the same accuracy as moderate subjects. But 'after incorrect decisions, the radicals were less likely to decrease the estimate confidence' (Chodosh, 2018: 6).

Under ambiguous conditions where no routines exist, individuals, groups, and organizations may call upon a biased situational view and employ heuristics, preconceptions, and prejudices to address the threat (Gilovich, Griffin, & Kahneman, 2002; Kahneman & Frederick, 2005). As per Staw, Sandelands, and Dutton (1981) poor information may severely hurt the organization. As well, when efforts begin to look like failure, decision makers reformulate organizational goals and/or rules for success (e.g., profit for this year is unimportant as we have reconfigured our investments for future profit). Stress responses eventually lead to inapt actions that may endanger future conditions. Such efforts may be irrelevant in tackling the real problem at hand: higher dykes may achieve the goal of reducing flooding in places due to rising sea levels, but the rise in sea level is the real problem and the eventual need, for example, to construct a dyke around the entire state of Florida is difficult.

Failures of attention

Aczel, Palfi, and Kekecs (2015) note that those in their 'absentminded' group, knew the right thing to do. Yet, they were not paying sufficient attention to avoid doing something 'stupid.' Pappas (2015) cites the example of walking out of a store with a chosen item and unintentionally not paying for that desired purchase.

It is hard to imagine that global players would fail to notice the unsustainable impact of human activity on the environment. Yet, the behavior of commercial organizations – when

interpreted by Ocasio's (1997) attention-based view (ABV) of organizations – indicates that they do have attention failures. The ABV explains how organizations 'focus of time and effort… on a set of issues… and on a particular set of action alternatives…' (p. 188). Thus, organizational attention creates an agenda of 'issues and action alternatives that guide the allocation and deployment of resources' (Ocasio, Laamanen, & Vaara, 2018: 155). That is, sustainability issues get lost when, in the shorter-run, firms are more concerned with profit and governments are more concerned with re-election. Thus, if sustainability issues fail to rise to the level where they seriously impact those goals, they are ignored.

Lack of impulse control

The lack of impulse control category includes cases of obsessive, compulsive, or addictive behavior. One example is the person who canceled a meeting with a good friend to stay home and continue playing video games. It could also be the case where political party members reject their own statutory recommendations because the opposition brought the bill to the legislature.

Argenti (1976) talks about the notion that autocratic decision makers may imperil the very existence of their organizations. They do this by failing to accept objections from those charged with implementing their preconceived plans. In addition, such autocratic decision makers may select biased information to support their proposals. Managers either buy into the efforts to selectively use information, limit alternatives, and execute these preconceived plans, or they leave the organization.

Functional stupidity

Although Aczel, Palfi, and Kekecs (2015) give us the basis for defining the concept of stupid, Alvesson and Spicer (2012) provide us with 'a stupidity-based theory of organizations' (p. 1194). Alvesson and Spicer discuss what they call 'functional stupidity.' As they define it, 'functional stupidity is inability and/or unwillingness to use cognitive and reflective capacities in anything other than narrow and circumspect ways… a disinclination to require or provide justification, and avoidance of substantive reasoning' (p. 1201). They note functional stupidity is a mixed blessing.

Good functional stupidity

Alvesson and Spicer (2012, 2016) note that functional stupidity offers group members a sense of certainty for smooth organizational operations. When a relaxed attitude toward being reflective, critical scrutiny, or justification is adopted, it saves the group from frictions created by reflection and doubt. By accepting and embracing group values, functional stupidity allows group members to avoid task fragmentation and contradictions to focus on organizational goals and the means to achieve them.

There is also economy to functional stupidity. If organizations were constantly justifying all their actions, they would need to devote significant resources to creating and expressing such justifications. Via functional stupidity, organizations can avoid costs associated with such critical thinking. A sense of mindlessness, to use Ashforth and Fried's (1988) term, allows a great deal of work to be accomplished when narrow and predictable conditions and action responses are required.

Bad functional stupidity

The down side to functional stupidity is that the organizationally-supported lack of being reflective, substantive reasoning and justification brings about a refusal to use intellectual resources outside a narrow and safe space (Sidhu, 2015). Group members may thus lack the ability or desire to use or process knowledge (Sternberg, 2002), question claims to knowledge or norms (Alvesson & Sköldberg, 2009), or use cognitive resources and intelligence (Alvesson & Spicer, 2012). A lack of

curiosity, closed-mindedness, and a reluctance to diminish one's identity as an 'organizational person' can be a barrier to broader thinking (see Kets de Vries, 1989; Whyte, 2002).

Alvesson and Spicer (2012) argue that by exerting their power via manipulation of symbols, corporate branding, strong corporate cultures, and charismatic leadership, organizations often block communicative action. The result is adherence to edicts by higher-ups, and a muffling of criticism or reflection. Doubts are stymied and there is a false sense of certainty about norms. What can and cannot be raised during group deliberation is restricted. Pair all this with a leader who lacks impulse control (Aczel, Palfi, & Kekecs, 2015), and the potential for disaster is great. Functional stupidity can thus increasingly expose wide gaps between shared assumptions and reality that may produce a disaster.

The inability of an organization, or the main actors in it, to be reflective, exercise substantive reasoning and be able to logically justify what would otherwise be questionable decisions adds to the likelihood of some kind of failure. We see all these elements in the case of the Boeing 737 Max. Rick Ludtke, an engineer with 19 years at Boeing who helped design the 737 Max's cockpit noted that the plane: 'was state of the art… 50 years ago… [but] not… for the current environment' (Nicas & Creswell, 2019: 11). He points out what the notion of functional stupidly speaks to, but in the context of the Boeing corporate culture: 'Nobody was quite perhaps willing to say it was unsafe, but we really felt like the limits were being bumped up against' (Nicas & Creswell, 2019: 23).

The overall effect

Overall, there is a trend toward inapt, rigid, or pre-planned approaches. This leads to stupidity in response causing intensification of threats or stressors. Actions become riskier as commitment increases to double down on attempts to make maladaptive behaviors work. Thus, in corporations, without board or creditor intervention, decision makers will allow top management teams to pursue inapt decisions unabated until the organization fails or is taken over. In political systems, leaders have to either be voted out or otherwise removed. Punctuated change may be needed to overcome confident ignorance and remove inattentive or autocratic leaders. Such change allows for new leadership, more realistic information and better decisions. The alternative is eventual collapse.

Engaging in confident ignorance, absentmindedness, and lack of control does not necessarily mean a lack of intelligence. Aczel, Palfi, and Kekecs (2015) say these acts reveal more about the observer's behavioral expectations. A person doing a stupid thing may be working with different expectations. On a grander scale, can we say whole organizations or institutions are 'stupid'? Within an organizational context, people may myopically rely more on group and/or organizational cohorts' opinions that might otherwise be the case (Jaeger, 2019; Janis, 1983). Thus, the importance of the response for those decision-making individuals, groups, and organizations comes into play when there is the need to react to some change or threat.

The threat-rigidity effect

A number of classic organizational studies address the behavioral antecedents of sub-optimal acts (e.g., Smart and Vertinsky, 1977; Tversky and Kahneman, 1974). The most widely known work is Staw, Sandelands, and Dutton's (1981) multilevel analysis on the threat-rigidity effect. Their focus was on how adversity affects the adaptability of multiple layers of organizational or institutional systems. They postulated that when a group is threatened, processes become more rigid and actors rededicate themselves to once routine solutions to address the threat, even if such behaviors are inappropriate.

There are, to use the phrasing from Aczel, Palfi, and Kekecs (2015), actors who are confident in their ignorance in handling the situation at hand. Looked at another way, under threat, the direction of organizational inertia is maintained, if not strengthened – resources are misallocated

and routines are entrenched (Gilbert, 2005). This would be Aczel, Palfi, and Kekecs's (2015) lack of impulse control.

For stupid actions to be enacted by organizations, it may take the combined actions that occur at multiple levels of organizational decision-making. Staw, Sandelands, and Dutton's (1981) analysis is multilevel because it addresses individual, group, and organizational effects. Such an analysis allows us to address concurrent actions that result in the overall appearance of organizational stupidity. These multilevel impacts are discussed below.

Individual level effects

Individual level effects described by Staw, Sandelands, and Dutton (1981) include psychological stress, anxiety, and physiological arousal. Just as in Rollwage, Doland, and Fleming's (2018) work, new information that may change evaluation of the facts is ignored. Weick (1996) noted how 27 wild land fire fighters failed to follow orders to drop their heavy tools so they could outrun an exploding fire. Their training told them this was a thing they must never do, and they died within sight of safe areas. Such actions, according to Staw, Sandelands, and Dutton (1981), restrict information processing and result in constriction of control. Thus, the need for rapid response increases belief bias in such a way that decision makers are not fully able to engage their analytical abilities in ways that lead to correct logical decisions (Evans & Curtis-Holmes, 2005). Thus, front-line workers' individual decision shortcuts may result in behaviors that create negative outcomes.

Engler, Abson, and von Wehrden (2017) note several fallacies occurring at the individual level. One, an endeavor may be continued when it might otherwise need to be abandoned to justify already sunk costs. Two, Engler et al. also discuss problems decision makers have with probabilities and may see probabilities as different as one in a million and one in a thousand as roughly equivalent (Sunstein & Zeckhauser, 2011; Wagner & Zeckhauser, 2012). There may be a preference for zero risk even if the greater risk reduction can be achieved more efficiently via other alternatives. Managers may make poor use of the knowledge they have in that they overestimate rates of occurrence based on well-publicized events, or have a bias toward data acquired early that meets preconceived expectations, their professional orientation, and personal experience (Wagner, 2002). Three, decision makers may stick with a default option if it is specified, or otherwise lean toward a sub-optimal status quo. Also, information processing biases mean that managers may apply evaluative criteria unevenly when faced with an array of alternatives, non-linear relationships, and special circumstances (Wagner, 2002). Finally, in lieu of rational decision processes there may be a preference toward decisions guided by an 'affect heuristic… [i.e. a] fast, intuitive, automatic, emotional, effortless and implicit mode of thinking' (Engler, Abson, & von Wehrden, 2017: 8). If data are incorporated, it may be over generalizations from small samples (Wagner, 2002).

Group level effects

According to Staw, Sandelands, and Dutton (1981), group level effects include the effect of threat upon group leadership and control, as well as pressures toward uniformity. If the threat is attributed to external sources and it is thought that group efforts will succeed, group cohesiveness, leadership support and pressure for uniformity increases. This results in restriction of information and constriction of control. If instead the threat is credited to internal sources or it is thought that group efforts will fail, group cohesiveness and leadership stability declines and dissention increases. This may force the input of new information and looser controls. If different groups within the organization have highly polarized positions, the in-group's position is favored such that discourse is difficult and decisions may be delayed so that actions are not taken in a timely manner (Engler, Abson, & von Wehrden, 2017). Thus, the ability to allow for change depends on whether the great majority of the groups involved believe the current sub-optimal approaches need reanalysis.

Organizational or institutional level effects

Organizational or institutional level effects in the threat-rigidity research come from the crisis literature (e.g., Smart and Vertinsky, 1977). The perception that one is in a crisis means that there is the potential for loss. Decision makers may initially increase information seeking to confirm the existence of the crisis, but as the crisis progresses, information gathering declines, in part because information channels get overloaded. As well, 'leaders may be unwilling to admit a crisis is possible because of what the threat would present to their sense of personal or organizational identity' (Jacobsen, 2010: 51). This may also lead to collective rationalization in a group's logic that may prevent leaders from detecting risk (Jacobsen, 2010; Seeger, Sellnow, & Ulmer, 2003).

Authority gets more centralized and formalized to direct efforts to address the crisis. Information gathered by previous authorities may be seen as suspect; if it were useful, those previously in charge would have used it to avoid the current problems in which the institution is mired. Basically, organizations shut down being open to acceptable alternatives to current behaviors when they are incapable of processing all the information available.

The overall effect

Overall, there is information restriction and constriction of control. The result is a tendency toward reinforcing well-learned responses. This all leads to rigidity in response that leads to the intensification of the threat. This will either lead to eventual collapse (see Hambrick & D'Aveni, 1988) or a gradual change that allows for new information and better decisions. Whether collapse or change occurs is discussed below.

The Stress Stupidity System

What happens if there are no routines to fall back on? The question is critical for addressing needs in a new or radically changed environment. This is what we face in a well-altered natural environment and the need to address sustainability issues.

As shown in Figure 1, an environmental change may create a threat or stress that triggers a performance gap between expected and actual results. This creates a decline in the organization's ability to address key survival elements (i.e., profit for corporations, legitimacy for governments, or other important institutions). This triggers the functional stupidity subsystem. If this is a familiar situation, standard operating procedures and a routine response may be suitable enough to address the threat or stress. If the situation is less familiar and the proper response is more ambiguous, we encounter what Aczel, Palfi, and Kekecs (2015) have identified as 'stupid' (what we have labeled 'identifiable stupidity'): confident ignorance, absentmindedness, and lack of impulse control.

The above subsystems and decisions lead to what we call 'stupidity in response.' At this point, decision makers may be motivated to address their stupid intuitional actions because external forces have created sufficient pressure for change. These additional 'transmitted external forces' include public opinion pressures, stakeholder pressures, and the ability of these external actors to manipulate their message so that it has some impact on organizational decision makers. With sufficient motivation from transmitted external forces, internal organizational changes will occur. This should allow for positive, suitable responses to threats and/or stressors. If, however, decision makers are disinclined to change, the threat rigidity responses of information restriction and constriction of control will intensify stressors. These elements will be discussed in more detail below.

The Stress–Stupidity Solution: Fixing Stupid

It has been argued, 'you can't fix stupid' (White, 2006). In fact, the more familiar you are with a subject, the stupider you might be. Atir, Rosenzweig, and Dunning (2015) found that in some
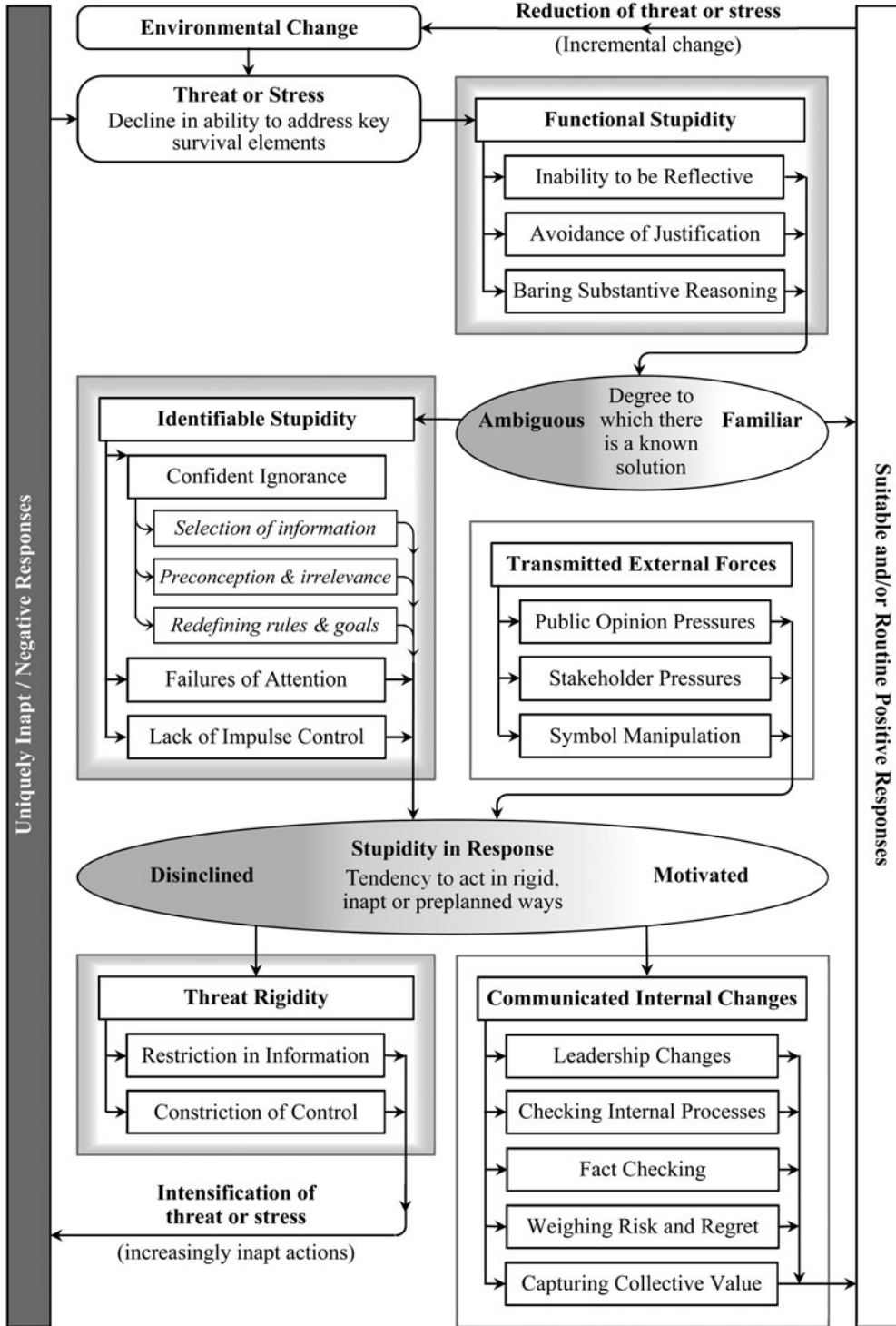
Figure 1. The stress–stupidity system.

cases over 90% of their subjects in a knowledge test claimed some familiarity of at least one fictitious concept in a list. As well, the more familiar subjects considered themselves to be with an area of knowledge, the more familiar they claimed to be with meaningless terms (Rutter, 2015).

On the other hand, Timothy Egan (2018) has argued the exercise of political citizenship can at least remove some of the institutional stupidity from our democratic discourse. That is, educating our fellow voters and ourselves allows us to mobilize and vote out the office holders. This does not happen without transmitting messages to those institutions from which we wish to remove stupidity. Therefore, the first step toward fixing the potential toward making stupid moves is determining whether one is sufficiently motivated to institute change. This motivation comes via the transmission of signals, or what we have labeled 'transmitted external forces.' The next step is whether such forces influence bring about bring change or recalcitrance and thus lead to further stupidity or intelligent response, respectively.

Transmitted external forces

In prodding youth not to be silent in the face of what is wrong Pope Francis said 'Dear young people, you have it in you to shout… It is up to you not to keep quiet' (Egan, 2018: 1). He is telling us that decision makers can only come to a valid choice if their attention has been drawn to the issue at hand. This speaks to correcting the failures of attention discussed by Aczel, Palfi, and Kekecs (2015) above. To do this, the three principal forces mentioned above come into play: public opinion, stakeholder pressures, and the concomitant symbol manipulation brought to bear.

Public opinion pressures

Public opinion pressures serve to put issues on an organization's agenda. Ocasio's (1997) ABV of organizations tells us that institutional attention creates an agenda of issues and action alternatives that guide the organization. If attention can be brought to an issue it can get on the agenda and addressed. This applies to the adoption of sustainable environmental manufacturing practices as well (Adebambo, Ashari, & Nordin, 2014). Otherwise, the organization remains stupid.

Stakeholder pressures

Stakeholder pressures are similarly important. Alvesson and Spicer (2012) note that there are, '…spaces within and around organizations that can host stupidity-disturbing dialogue' to break a standard pattern of response (p. 1212). They note that these include broader social movements (Spicer & Böhm, 2007), and the media (Patriotta, Gond, & Schultz, 2011). Darnall, Henriques, and Sadorsky (2008) note that stakeholder pressures play a major role in adoption of environmental management systems.

Symbol manipulation

Social movements also employ symbol manipulation. The so-called Great Pacific Garbage Patch (GPGP) 'conjures images of a floating landfill in the middle of the ocean, with miles of bobbing plastic bottles…' (NOAA, 2019: para. 2). Experts at the U.S. National Oceanic and Atmospheric Administration (NOAA, 2019: para. 2) point out that while, 'these areas have a higher concentration… much of the debris found in these areas are small bits of plastic…' Rather than a Texas-sized island that one could walk on, the debris in the GPGP 'is more like flecks of pepper floating throughout a bowl of soup…' (NOAA, 2019: para. 2). The collection of these plastics up through the food chain is a problem, but without the images of islands of floating trash, decision makers, and the public may be less likely to take any actions regarding plastics' use.

If the GPGP is just peppery water, we may ignore it; it would fail to be Unger's (2000) 'hot crisis.' A massive garbage slick puts a more severe image in your head, and it is effective. This speaks to Ocasio, Laamanen, and Vaara's (2018) discussion of the need to discuss strategic

vocabularies as micro foundations of attention formation and the rhetorical tactics as determinants of attentional engagement.

One reaches a crossroads once stupid decisions and the above pressures come to bear upon individuals, groups, and organizations. That crossroads is whether decision makers are disinclined toward change and toward continued errors or motivated to respond with addressing the need for change. In other words, will decision makers exhibit 'stupidity in response' to previous inapt decisions and transmitted external forces?

Stupidity in response

The disparity between being motivated or disinclined to act can imperil organizational existence. Sheppard and Chowdhury (2005) note that disinterested private family ownership may have led to the demise of Canada's once leading department store, Eaton's. Eaton's lost billions before launching a failed attempt to address pressures arriving with U.S. entrant Wal-Mart. They contrast this with another major chain, Canadian Tire (CT). CT's housewares lines came under attack from Wal-Mart and its hardware lines were threatened by U.S. giant Home Depot. However, CT had interested family owners, was publicly traded and had local franchisees. Pressure from these groups more quickly forced CT to address the challenges and mobilize resources to successfully develop newer, bigger, more competitive stores.

An additional point here is that, insurgent movements within organizations can help break through functional stupidity (Creed, Scully, & Austin, 2002). As well, 'leaders who are willing to open up broader reflection on fundamental assumptions within an organization' allows for a to change (Alvesson & Spicer, 2012: 1212). A failure to be so driven means that threat-rigidity effects come into force and the organization further restricts information, constricts control and intensifies its threats and/or stressors.

We have outlined six ways in which motivated decision makers can correct a likely cycle of stupidity and inapt responses. These deal with communication, leadership, internal processes, descent, risk/regret, and collective value. These are discussed further below.

Communicated internal changes

Ocasio's (1997) ABV of organizations reminds us that to affect change one needs to communicate the need for performing activities in a different way. An overt commitment must be made and in many cases this commitment begins at the top of the organization. Ughakpoteni's (2015) extensive scoping review of top management leadership and corporate sustainability points to the importance of top management commitment for corporate sustainability performance, sustainability-oriented innovation and sustainability-oriented practices. In addition, Adebambo, Ashari, and Nordin (2014) have reviewed how top management commitment can positively influence the implementation and other aspects of environmental practices regarding sustainable environmental manufacturing practices.

Leadership changes

Leadership changes aid in turning around the direction of the institution. To turnaround corporations Schoenberg, Collier, and Bowman's (2013) review concluded that organizations are aided in their turnaround efforts via changes in the chief executive officer (CEO) and top management team. This helps to signal a change in the organizational culture to break old habits and create new behaviors (Stopford & Baden-Fuller, 1990). More broadly, as Harris (1998) and Kuhn (1996) have pointed out, there are some areas, for example, the scientific community, where an entire generation often has to die off in order for new ideas to be accepted.

An alternative is that leaders open up broader reflection on fundamental assumptions in an organization (Hatch, 2011). Yet, as noted above, such a move may be harder with continuity of leadership. One might simply promote out of the way a leader who has reached their level

of incompetence (Peter, 1984; Peter & Hull, 1969). A vice president (VP) of finance thus becomes the VP of harmless special projects; a CEO becomes chair of the board with no real power. In any case, there is a change in the way leaders handle the situation and stakeholders can begin to address how to perform differently based on a real analysis of the facts. The principal downside is that unless the company is large and the use of this technique is limited it is financially onerous for an organization to employ such methods (Grudin, 2015). Thus, changing leadership in a direct and obvious way would more likely promote an end to ongoing stupidity.

Checking internal processes

Effectively, checking internal processes is avoiding groupthink (DuBrin, 2012). This concept, in brief, represents 'a deterioration of mental efficiency, reality testing, and moral judgment in the interest of group solidarity' (Mannes, 2016: para. 5). The symptoms of groupthink – such as the suppression of dissent, polarization of attitude, and poor decision quality – are well established and demonstrated with Janis' (1972) dissection of the Bay of Pigs decision and later events (e.g., see Cohen and DeBenedet, 2012). We recommend and reiterate here Janis' recommendations to prevent groupthink: 'appointing a devil's advocate, introducing outside voices and allowing brainstorming to occur without judgment or criticism' (Cohen & DeBenedet, 2012: para. 4).

The concepts of organizational learning (Argyris, 1977; Argyris & Schon, 1978) and team reflexive learning (Swift & West, 1998; West, 2000) can play a role here. Argyris sees organizational learning principally as the process by which organizational members seek to detect and correct error. Swift and West (1998) see reflexivity as driving awareness via 'a turning back on the self' (p. 4). This involves employing reflection to identify discrepancies between actual and desired performance, planning ways to minimize discrepancies and adapting to plan-directed behaviors. Vashdi, Bamberger, Erez, and Weiss-Meilik (2007) outline practical applications for team reflexive organizational learning along the lines of the Swift and West model. Vashdi et al. (2007) looked at a reflexive organizational model from the Israeli Air Force that was used to improve the performance of surgical teams. Reflection was characterized as an open, pleasant, egalitarian, and democratic discussion where there was a primary focus on error detection and analysis (with an effort to acknowledge both exceptional and standard performance) reexamination of basic assumptions and rules of operations when needed and an undertone of constructive competition. Planning occurred when team members discussed how the lessons they learned could be applied in the future. Finally, adaptation ensues as team members apply the lessons learned in previous debriefings and examine across debriefings their individual and team-based progress.

Fact checking through authentic dissent

All the subsystems outlined here point to some reduction in the input of reliable information. Solid information is sometimes hard to come by and even the potentially best informed of decision makers, in an effort to forward an agenda, can fall prey to glossing over facts. Facilitating such discussion, Boin and McConnell (2007) note that addressing catastrophes requires some form of expertise to inform critical decision-making and a network of experts can assist in this regard. Yet, some well-known failures have occurred while employing experts. U.S. presidents have at their disposal some of the world's best information and experts. Yet, President Kennedy committed to the Bay of Pigs without checking information from the previous administration (Janis, 1972).

Research by Nemeth, Brown, and Rogers (2001) notes that, although including a devil's advocate is often touted as a method to insure facts, assumptions, and options gain a more thorough review, the voice of authentic dissenting opinions to a course of action generates better discussion. That is, including those whose opinions genuinely disagree with the views of the majority of decision makers create a wider range of useful alternative courses of action. As well, such discussion

may aid in bringing up underlying assumptions and information that may be needed to insure a better, or less stupid, decision.

Weighing risk and regret

Weighing risk and regret may involve taking a hard look at the potential for loss. This is especially important with regard to environmental concerns. Reducing negative environmental impact is expensive (Walsh, 2015). The cost of destroying the earth could be more expensive. There are two types of possible errors here. 'A type I error occurs when… a pollution control device is unjustly imposed on an industry. A type II error occurs when no action is taken to control an industry when, in fact, damage is taking place' (M'Gonigle, Jamieson, McAllister, & Peterman, 1994: 99). Deciding on a proper course of action then involves which kind of error to which one wishes to be exposed.

Capturing collective value

Mancur Olson (1965) tells us that overcoming collective action problems, like those required to clean up the environment, requires selective incentives. In other words, unless those taking action can incentivize people, organizations and/or institutions are unlikely to participate. Individual actions toward green consumerism are unlikely to have such incentives and governments are logically called upon to overcome resistance to environmental efforts (Johnstone & Hooper, 2016; Pettit & Sheppard, 1992). This is the logic behind carbon taxes: to create a private incentive for a public good. Governments may reduce air pollution from government-controlled facilities at a cost if they can recoup those costs, for example, from reduced public health care costs. Governments may invest in basic research in photovoltaic cell development if it aids in future commercial sales and adds to national industrial development.

How stupidity impacts sustainable development

Cipolla's *Basic Laws of Human Stupidity* (1987, 2019), tells us that people fall into four categories: intelligent, helpless, bandits, and stupid. He explains this as an interaction between two people: (1) in the intelligent interaction cooperation leaves both parties better off; (2) in the helpless interaction one takes an action resulting in self-loss; (3) in the bandit interaction one takes an action resulting in another's loss; and (4) in a stupid interaction, both parties suffer a loss. Kuperman, Bárcenas, and Kuperman (2019), employing iterative game theory, found 'that even the smallest fraction of stupid… [people] produces a notable effect,' in part because they lessen the positive impact of intelligent actors (p. 8). They state, 'a stupid person is the most dangerous one' since they lead 'to a lower global gain' (p. 8).

Similarly, the positive interaction between sustainability and development gives us an intelligent outcome. As we noted earlier, failure, through the exercise of stupidity, in either realm creates an ecological, economic, or global collapse. Thus, intelligent interaction occurs when sustainable development meets both economic and environmental goals. One should at least avoid the realm of the truly stupid where economic and other human development pursuits and environmental goals block each other so that we all suffer a loss because we fail to make positive sustainable development decisions. To avoid being blocked by stupidity we analyzed each of the seven climate and environmental livability goals from Table 1 (water/sanitation, energy, communities, consumption/production, climate, marine resources, and ecosystems/biodiversity) for how identifiable stupidity, functional stupidity, and threat-rigidity impact them.

A quick summary of Table 2 tells us several things. For *identifiable stupidity*, there were three consistent themes for why stupidity may occur: events being out-of-sight out-of-mind (Aczel, Palfi, & Kekecs, 2015), not knowing what we do not know (Dunning, 2011; Kruger & Dunning, 1999), and the collective action problems (Olson, 1965) of one individual feeling an

Table 2. Stupid analysis of UN sustainable development goals for climate and environmental livability

	Clean Water and Sanitation	Affordable Clean Energy	Sustainable Cities and Communities	Consumption and Production	Climate Action	Marine Resources	Ecosystems and Biodiversity
Identifiable stupidity							
Confident ignorance	Global managers may have little contact with water and sanitary issues.	Current fossil fuel reliability allows for ignoring green energy substitutes.	If a problem is not in one's backyard, one can be unconcerned about it.	Collective action problem: individuals may feel they help enough.	Despite proof of human caused climate change there is denial.	A tragedy of the commons. Actions here are away from authorities.	Processes may be so intricate that we over-estimate our knowledge.
Failures of attention	When failures like Flint MI. occur it does come to the public's attention.	Benefits from current tech. mean alternatives may be ignored.	City anonymity allows a lack of community development concerns.	Unless a failure to transport products or trash, we will not attend to this.	Other issues take priority. Officials prioritize staying in office.	Damage happens before anyone knows as it occurs away from public.	Species reduction may occur away from most people, thus gets ignored.
Lack of impulse control	Old habits last. Car washing at home when commercial is greener.	Unknown potential of alternate energy vs. a sure bet on fossil fuels.	Not-in-my-back-yard reaction to needed, unwanted development.	It is easier to throw something out and not sort through recycling.	Throwaway items leave us in a position to just dispose of items.	Resources there for the taking e.g., over-fishing is a loss of fisheries.	Even if we want to be greener, we may improperly trash something.
Functional stupidity							
Being reflective	Little reflection over water use like toilet flushing but a big use impact.	A sure fossil fuel bet may beat the unknown alternate energy sources.	A view that this is an urban planners job and not that of the community.	Repeat purchase decisions based on product packaging over recyclability.	Elected officials seek re-election over future sustainability.	Most do not see oceans and so do not reflect on decision impacts.	It is hard for urban dwellers to reflect on the unseen natural resources.
Substantive reasoning	Out-of-sight, out-of-mind; more lack of attention than lack of reasoning.	Instead of green energy, officials support fossil fuel employment.	Lest a not-in-my-back-yard issue, development issues are unseen.	Repeat purchase decisions based on product content over recyclability or greener packaging.	Current enviro. improvement cost may outweigh future harm cost.	Out-of-sight, out-of-mind; more lack of attention vs. lack of reason.	Out-of-sight, out-of-mind; more lack of attention to these resources.

Table 2. (*Continued.*)

	Clean Water and Sanitation	Affordable Clean Energy	Sustainable Cities and Communities	Consumption and Production	Climate Action	Marine Resources	Ecosystems and Biodiversity
Justification	Collective action problem the impact of one individual is seen as minimal.	Key justifications to the historic economic job base of fossil fuels.	Focus is typically on providing for unique and parochial needs.	Repeat purchase decisions based on product content over recyclability.	Known current cost outweighs unknown future benefit.	Not so much that we lack justifications but out-of-sight, out-of-mind.	Not so much lack of justifications but out-of-sight, out-of-mind issue.
Threat-rigidity							
Restriction in information	When faced with a water crisis, Flint officials were quiet enough to do harm.	U.S. fossil fuel interests impact authorities via regulatory info.	Again Flint's state decision makers are the object lesson here.	Focus on jobs over ecologies restricts the type of info. to which we attend.	This means we ignore a great amount of climate change data.	Activity far from public; may not restrict so much as lack info. access.	Public land use far from citizens and thus info. may be hard to get.
Constriction of control	Flint water choices were deleted from public view due to State takeover.	Decision-maker access means alternative energy is not advocated.	Again Flint's state decision makers are the object lesson here.	In market-based societies this tends not to generally be a problem.	People in control will tighten their authority to override green efforts.	Regulators duty to protect these resources may lose to fishers' needs.	Regulators duty to protect resources may lose to industry's needs.

Table 3. Stupid fixes for UN sustainable development goals for climate and environmental livability

	Clean Water and Sanitation	Affordable Clean Energy	Sustainable Cities and Communities	Consumption and Production	Climate Action	Marine Resources	Ecosystems and Biodiversity
Capturing collective value	If water is seen as a right, demands will be put on government to provide this affordably and with tax dollar assistance.	Co-opting fossil fuel firms to provide greener energy or employ their resources for other material uses will be critical.	Sustainable cities must address unobtainable affordable housing and develop recycling and sustainable transportation systems.	Designing systems that will provide incentives for sustainability (e.g., carbon taxes).	Creating market incentives like carbon taxes or special feed-in prices for solar power generation are needed.	As wild fish stocks decline, fish farming and the potential risks that go with it need monitoring.	Actually the construction control here could be of some benefit.
Weighing risk and regret	Places with drying aquifers and where sea levels impact sanitation systems (or lack thereof) may be impacted and there will be health costs.	Weighing fossil fuel needs versus destruction caused by oil extraction in remote places (e.g., the artic) or in harmful ways (oil shale extraction).	Increasingly complex and unknown future technologies and social movements will have to allow urban design to be flexible for such changes.	Evaluating cost and return by governments regarding potential regulations.	The perceived battle between the economic, resource and environmental needs will need some balance.	The perceived battle between the economic, resource and environmental needs will need some balance.	It is hard for urban dwellers to reflect on the unseen natural environment.
Fact checking through authentic dissent	Advances in water purification and desalination and may bring a revolution here if properly implemented.	Progress in power generation and battery tech. may bring a revolution if properly implemented.	Technologic, transportation and communication change could alter the way we develop communities.	Learning what product and processes lead to more environmentally sustainable decisions.	Getting reasonable consensus of the rate of climate change and optimal solutions is needed.	Getting reasonable data on pollution and development of technologies to address it.	There is growth in recycling but it does not mean that we do not often throw something out we should not.
Checking internal processes	Ongoing oversight and monitoring of tech. innovations and local processes is critical.	Monitor/oversee suitable industry processes is vital (e.g., B.P.'s Deep-water Horizon).	Need local input and global know-how to insure meeting a range of stakeholder needs.	Educating producers and consumers on waste reduction in purchases and processes.	Continuing development of rollout monitoring of new sustainable technologies.	Oversight and monitoring of at sea and on shore processes.	Species reduction may occur away from most people and thus tends to get ignored.
Leadership changes	Need to wrestle influence away from transnational agencies and down to local ones.	The need to wrestle influence away from fossil fuel executives.	Local authorities need to respond to regional demands and international expertise.	Need for national governments to take the lead in regulating sustainable packaging.	Leadership in larger nations can affect change enough to make a major difference.	The international nature of this challenge makes leadership impacts difficult.	Complex processes require better attention to expert knowledge.

inability to affect change. Confident ignorance also includes straight out denial (Elkington, 1994). Failures of attention may also stem a preference for the status quo (Staw, Sandelands, & Dutton, 1981). Lack of impulse control may be the result of habit, being unaware of alternatives, ease of use, and just plain judgment errors. *Functional stupidity* can derive from out-of-sight out-of-mind conditions, a preference for known but sub-optimal choices. Being reflective also may result from actions being of low consequence, deferring to other decision makers (Sheppard & Young, 2007), derived from habit (Henriques, 2020), and others' political expediency (Mella, 2017). Both substantive reasoning and justification are also related to a preference for local benefits but global costs, a failure to internalize externalities (O'Hara, 2003), and current costs being seen to outweigh future benefits (Farber & Hemmersbaugh, 1993). Justification is also related to collective action difficulties (Olson, 1965). *Threat-rigidity* aids stupidity via lack of public exposure of actions, political influence, decision makers that are far removed from consequences, skewed data, and regulatory capture (Stigler, 1971).

Fixing stupid: How do we get past being stupid

We analyzed each of the seven climate and environmental livability goals for how they could be impacted by the five 'stupid' fixes we discussed earlier regarding leadership, processes, fact checking, risk and regret, and collective value. These are reviewed in Table 3. Leadership changes are almost always advisable, as are attention to true dissent voices to break the status quo and introduce new information and methods. Additionally, many of the corrections involved the development and monitoring of products, processes and new technologies to ensure sustainable practices are explored and, if appropriate, implemented.

The list presented in Table 2 is far from complete. However, it does give us some insight into the stupidity that may go into a decision maker's analysis about sustainability. Similarly, Table 3 is short of detail but gives us some corrections that are required on the difficult road we have ahead.

Caveats and Conclusions

We must note one final caveat here. Although stupidity is *a* cause for why we are not doing more to create a sustainable environment, it is not *the only* possible reason for why we are not doing more. Issues of organizational and institutional inertia are present (Kelly & Amburgey, 1991), particularly with regard to continued investment in fossil fuel technology. As well, politicians may succumb to some variant of Munchausen at Work (Bennett, 2007) where letting a problems fester so that decision makers can take credit as a problem solver when they implement known solutions. This latter possibility presents us with the very real possibility that our leaders are playing chicken with our collective future.

If the worldwide lockdown due to the novel coronavirus of 2020 pointed out anything obvious about the environment and the impact of human activity, it is that we are capable of reducing our ecological footprint (Gardiner, 2020). The future will confront us with the question of whether we will return to development with its previously associated ecological derogations or do so more sustainably. There is evidence to suggest that the habits we developed from the novel coronavirus lockdown of 2020 may alter future behaviors (Henriques, 2020), but such prognostications are beyond the scope of this work.

In conclusion, Shiva (2009) concisely notes, 'Chasing economic growth while ecosystems collapse is a sign of stupidity, not wisdom' (p. 18). Although we have mentioned above that there are a range of causes besides stupidity that can block sustainable development, stopping stupid notions concerning sustainability and development would certainly go toward helping to improve the environment. Reducing stupid roadblocks to sustainable development is up to us. As Thompson (as cited in Hansen, 1996) perhaps best summarizes the importance of intelligent environmental efforts. Although 'society may collapse because of shortsighted stupidity…

[from] resource exploiting power elites… the collapse will only be tragic if it is shortsightedness or ignorance on the part of environmentally and ethically concerned people that helps bring it about' (p. 127).

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