7

From Despair and Helplessness to Constructive Problem-Solving: Seeking Information Rather than Letting It Find You

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At the conclusion of the 2023 Atlantic hurricane season, media reports highlighted how devastating it had been. A piece by CNN was headlined "Frenetic hurricane season comes to an end" (Gilbert, 2023), and other headlines noted the season "ranks 4th for most-named [sic] storms in a year" (National Oceanic and Atmospheric Association, 2023) and was "marked by storms that 'really rapidly intensified'" (Davis & Jones, 2023). CNN's headline even ominously hinted that the 2023 hurricane season "gives experts a glimpse into next year's potential." Reports consistently emphasized death, destruction, and danger, with the clear suggestion that things were bad and getting worse. Unless it helped to accentuate the negative, few points of comparison or scientific interpretation were provided to help a reader place the latest hurricane season into a meaningful context (e.g., to assess whether it had been unusually mild or severe, or whether there is any trend with implications for the future).

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Predominantly negative information would have reached us unless we deliberately sought less biased information on our own.

One easy way to learn more about the 2023 Atlantic hurricane season would be to browse its Wikipedia page, which would probably appear at or near the top of an Internet search. The crowdsourced encyclopedia entry is less sensationalistic than most media reports, contains more comprehensive coverage of pertinent facts and data, and is part of a series of entries linked to enable systematic comparisons across seasons. In 2023, only 7 of the 20 named storms became hurricanes, there were 21 fatalities, and the total damage was estimated to cost \$4.2B (Wikimedia Foundation, 2024b). These are challenging figures to evaluate, as any numbers of hurricanes, fatalities, and billions of dollars in damages can be alarming. It was simple and straightforward, however, to place these figures into the context of recent Atlantic hurricane seasons. What the comparison revealed is that the number of hurricanes in 2023 (7) was fairly typical when compared to the prior ten years (range = 2 to 14, Mdn = 7, M = 7.2), the number of fatalities (21) was much lower than usual (range = 21 to 3369, Mdn = 183, M = 547.9), and the amount of damage (\$4.2B) was also much lower than usual (range = \$0.4B to \$294.8B, Mdn = \$34.0B, M = \$63.1B). The process of contextualizing the alarming statistics for the 2023 hurricane season was easy: perform one Internet search, browse one Wikipedia page, enter a few values from a series of linked web pages into a spreadsheet, and calculate descriptive statistics. It took less than ten minutes to obtain all of the information shown here. More time was spent reading further out of curiosity. In fact, an advantage of deliberately seeking information is that doing so is likely to spark curiosity and allow for self-directed exploration.

So far, we have contrasted the haphazard encounter of media reports on the 2023 Atlantic hurricane season with the perusal of more comprehensive, and less biased, information readily available via Internet search. More broadly conceived, the negativity bias of news coverage also helps to understand the popular perception of increasing danger in modern life. For example, in the wider realm of natural disasters—which includes hurricanes, floods, earthquakes, wildfires, tornados, tsunamis, landslides, and more—media reports and social media activity posts typically draw our attention to the worst outcomes. Unless we seek information for

ourselves, we usually only learn about disasters immediately following a tragedy. We learn little or nothing during periods of calm and safety, nor do we tend to learn how sharply the number of deaths from natural disasters has fallen over time (Ritchie & Roser, 2024). A disaster that might have killed more than a million people a century ago may kill very few people today, thanks to improvements in monitoring, detection, and early warning systems; building codes, materials, practices, and inspections; evacuation and emergency response; and many other systems grounded in science, technology, and good governance. Hazards may be increasing modestly due to climate change, and exposure depends on whether people live in affected areas, but vulnerability has been drastically reduced. Nature continues to produce disasters, but they take less of a toll on humanity as we become ever more resilient. The myriad improvements that bolster resilience seldom make the news.

Objective risk levels due to natural disasters have tumbled, but the perception of risk and the emotional response of fear are both high and perhaps rising. We believe the disconnect between an objectively progressing world and the perception of danger, with its accompanying emotional reaction of fear, is caused in part by how we choose to get our information. The disproportionately negative media reports and social media activity related to natural disasters is typical of how we receive anecdotal, carefully selected, worst-case information about a potential danger. Neurologically, the sustained dominance of negativity may trigger stress responses that impair functioning in the prefrontal cortex, the area of the brain linked to decision-making, attention, and planning (Arnsten, 2009). Thus, if we do not develop the necessary skills to cultivate a holistic understanding of the current state of the world, a constant flow of negativity may handicap our capacity to process and identify potential steps toward progress.

Information created and shared in order to get our attention is most successful when it appeals to the negativity dominance of human psychology. The next section explores how haphazard information encounters tend to induce anxiety, pessimism, and helplessness due to the joint influence of the closely related phenomena of negativity dominance and negativity bias. The following sections discuss ways to identify factors contributing to negativity bias as well as ways to reduce or eliminate the

biasing influences. A concluding section provides advice for how critical thinkers can sidestep many of the negatively biased sources of information targeting their negativity dominance and seek better information for themselves to promote understanding, insight, and constructive problem-solving.

The Negativity Biases of Haphazard Information Encounters

There are many reasons why our outlook can be biased in a pessimistic direction, our emotions skewed toward fear and anxiety, and our orientation to problems drawn to helplessness, when we passively receive information directed at us rather than actively seeking sources that answer important questions and satisfy our curiosity. The world is in many ways safer than in the past, but at the same time, hazards have never been broadcast more effectively. Traditional as well as social media can deliver bad news from anywhere in the world instantly. We use the term "negativity bias" to refer to a nonrepresentative sample of information skewed toward the negative. Why might a negativity bias emerge across many sources of information? Because alarms get people's attention. We literally cannot process everything happening in the world around us, and our attention filters prioritize potential threats or dangers among the most important stimuli (Kahneman, 2011; Rozin & Royzman, 2001). We use the term "negativity dominance" to refer to a collection of cognitive, emotional, and behavioral biases that involve stronger reactions to negative, rather than positive, stimuli. An awareness of negativity dominance in human psychology incentivizes the creation and spread of negatively biased information. Disproportionate exposure to bad news can trigger more fear than is warranted by actual risk levels.

A biological preparedness to experience certain types of fear can be highly adaptive under the circumstances in which a species evolved (Seligman, 1971). There can be real survival value in prioritizing negativity and escape over positivity and approach. However, some of the cognitive tools that once served us well, providing evolutionary advantages in

the natural environment of our distant past, have become liabilities in the circumstances of modern life. For example, dangers of long ago often were immediate and required urgent action, such as predators or starvation. The deeply ingrained survival instinct to tackle an immediate challenge does not as effectively address modern threats that cannot be directly confronted. Today, people are at greater risk from the effects of a sedentary lifestyle or climate change than from predators or starvation. Because our thinking still gravitates toward a more immediate threat, longer-term concerns may be neglected precisely because they lack the urgency that directs our attention and compels us to act.

Likewise, a mental shortcut known as the availability heuristic, by which we judge the frequency or probability of an event according to how easily we can retrieve instances from memory (Tversky & Kahneman, 1974), probably served us much better in the distant past. Through most of their evolutionary history, human beings lived in comparatively small groups (e.g., hunter-gatherer bands of 20 to 50 people, and tribal communities or early agricultural villages of hundreds to a few thousand people predominated until just a few thousand years ago) and communicated directly with one another (not through electronic intermediaries) over relatively short distances (rather than across a global network). Recalling instances from memory will provide a more accurate reflection of reality when the information itself is more representative of the experience of those who live in the same time, place, and circumstances. In modern life, the rapid dissemination of information around the world is a mixed blessing, raising awareness of important events or problems but also biasing our perception of the frequency of negative events and limiting our understanding of whether problems are getting better or worse. There's always something very bad happening to someone, somewhere, and the worst news is more likely than ever to come to our attention as we are increasingly globally interconnected. In contrast, improvements in safety or living standards often accumulate gradually over time and can remain hidden when they do not occur as discrete, alarming events. For every seemingly insurmountable issue we have faced as a global community, countless scholars, scientists, diplomats, and brilliant thinkers have tirelessly worked outside the spotlight to establish the historic advancements

that mark our modern world, and they continue to do so. Because of negativity bias, however, these advancements remain largely invisible.

Traditional media have long responded to the negativity dominance of human psychology by providing a steady stream of alarming stories. Social media can amplify the negativity bias through an availability cascade, which is essentially a chain reaction within a network (Kuran & Sunstein, 1998). To be deemed newsworthy, a minor or unusual event will be written in a disproportionately negative way compared to most people's lived experience. Following the original news post, the bombardment of repeated exposure through traditional or social media activity only serves to make an event more available in memory, which distorts future appraisals, fueling anxiety, pessimism, and helplessness. For example, if an earthquake occurs in an area that seldom experiences earthquakes, a small, briefly lived seismic event may trigger a slew of news stories and social media posts about the atypical occurrence. A minor event can thus escalate into a flurry of media attention, causing earthquakes—and the fear of their recurrence—to occupy a disproportionately large space in one's mind.

Even when our attention is drawn to important problems, more news does not necessarily mean more suffering. We have become better able to detect, and more willing to report, many types of problems. Improvements in technology and surveillance, such as the enhanced monitoring of conditions that enables the detection of relatively remote and less destructive natural disasters that might have gone unnoticed decades ago, lead to more reports of disasters (Ritchie & Rosado, 2024). Likewise, Singer's (2011) concept of the "expanding moral circle" provides a framework for understanding why we may encounter more frequent reports of bad news, regardless of whether conditions are getting better or worse. As humanity's moral awareness grows, people increasingly recognize a wider range of issues as legitimate concerns, including many which were previously ignored or minimized (Crimston et al., 2016). For example, reports of sexual harassment, sexual assault, and rape have surged in recent decades, not necessarily because such incidents are more common, but at least in part because there is now a greater societal recognition that these behaviors are unacceptable and harmful (Guardian News and Media, 2016; Norment, 1991). Similarly, environmental degradation is more

frequently discussed, reflecting a heightened awareness of the moral imperative to protect the planet for future generations (Tyson, 2021). Other examples include the rising visibility of racial injustice, domestic violence, and mental health crises (Flood & Pease, 2009; Hunt & Shepherd, 2023; Pescosolido & Martin, 2015). These issues, once dismissed or hidden, are now seen as critical societal problems that demand attention and action. Thus, an increase in negative news can actually be seen as a positive development, indicating that more problems are being acknowledged and addressed within an ever-expanding circle of moral concern.

Interestingly, just as our memory can mislead us via the ease of recalling a nonrepresentative sample of unusually negative instances, it can also mislead us when we compare our present situation to a positively biased alternative. We might reflect on an unrealistically rosy vision of the past, whether by glorifying our own early experiences or those of others in a more distant past (Adler & Pansky, 2020). When faced with the stressful messages of everyday media exposure, it can be tempting to imagine an unspecified time when life was simpler, less threatening, or more natural. Such a vision may overlook the likelihood that people lived shorter and less healthy lives due to poorer sanitation, more physically demanding work, and less advanced medicine; enjoyed fewer opportunities to get an education, communicate or travel over long distances, or eat a varied diet of fresh foods grown, stored, and traded across a wide network; and lived in a more rigid social hierarchy that placed less value on diversity, equity, or inclusion (Roser, 2024).

Another type of biased comparison involves the "ideal self" people often present on social media, a curated version of their lives that emphasizes positive qualities and experiences while downplaying or omitting struggles, flaws, and weaknesses (Bailey et al., 2020). Such posts shine a spotlight on the best features of other people's lives and, by comparison, cast a gloomy shadow over our own. Just as negatively biased information can lead to despair when we mistakenly infer that bad events are typical, selectively recalling or imagining a rosy past, or only seeing the best moments of other people's lives, can lead to despair when we make a biased comparison with the full range of ups and downs in our own life (Vogel et al., 2014).

Other psychological biases contributing to negativity dominance involve aversions to positivity and those who express it. Negativity can seem wiser and more moral. For example, by carefully manipulating the tone independently of the content of book reviews, Amabile (1983) found negative reviewers were perceived as smarter, more competent, and more expert than positive reviewers. Likewise, discussing problems signals to others you care about them. In addition to such moralization, or virtue signaling (Crockett, 2017), there is the possibility that acknowledging gains may seem insensitive. A situation may be getting better (e.g., rates of violent crime are falling), but it can feel heartless to say so if anyone is still suffering (e.g., if violent crime still exists). When negatively biased beliefs and attitudes become normalized, individuals may feel that an expression of positivity could jeopardize their standing within a group or community.

The many facets of negativity dominance in human psychology and the negativity bias in many information sources make it challenging, but not altogether impossible, to attain a more accurate understanding of the world. Rosling et al. (2020) describe a number of "dramatic instincts" that bias our impressions, but more importantly they suggest ways to counteract these bad habits. We believe it is crucial, as critical thinkers, to learn and practice techniques that help to obtain a more representative sample of human experience on which to assess both the threat of risks and the promise of opportunities. A disconnect between perception and reality should be concerning for anyone, but perhaps most of all for the cohort of youth most intensely connected on social media and experiencing anxiety and mental health crises (Haidt, 2024). If the number and variety of problems highlighted every day overwhelms our limited capacity for cognitive and emotional processing, a state of learned helplessness can distort our sense for which real problems may be worthwhile and feasible to address as individuals or through collective action (Harris, 2019).

In the next three sections, we review many of the dramatic instincts described by Rosling et al. (2020) and highlight ways to recognize and counteract their influence. The overarching goals are to see how the alarming stories designed to reach us take advantage of our negativity dominance, to develop an expectation for bad news that assigns it less weight in shaping our attitudes, beliefs, and behaviors, and to take steps

to supplement or replace biased information sources with those providing more balance and insight.

Look for What Is Missing

An alarming story may be missing important information, and we will examine two ways such omissions occur. First, the story may paint an oversimplified picture of two distinct groups, with a gap in between, and the existence of such a gap can be cause for concern. The reality, however, is often more complex, as large-scale issues are rarely as straightforward as a binary explanation suggests. In other words, an implied gap may not exist. For example, media reports often portray politics as a battle between extreme liberals and conservatives, and our haphazard information encounters may appear to support such reporting. However, most of the US population actually holds more moderate views that do not fit a polarized narrative. In a Gallup poll that asked 12,000 US adults to identify their political ideology on a 5-point scale, the most common response (37%) was "moderate," and another 44% chose either "conservative" or "liberal." Only 16% chose the extremes of either "very conservative" or "very liberal" (Saad, 2024). The implied gap between two extreme political ideologies is missing. How can we make sense of a large population of self-identifying moderates when political division appears to be so strong? Those with the most extreme positions may hold them most passionately and be the most active participants in political debates or discussions, thereby receiving more attention and comment, by supporters and opponents, than those with more moderate positions. Subtle, nuanced, and well-reasoned arguments do not make for attention-grabbing headlines and cannot be communicated easily in the short-form text or video content popular on many traditional and social media platforms. Moderate voters, who are often marked by an ideological mix of conservative and liberal views, are more reactive to the qualities and beliefs of each candidate than are voters with more extreme views, who tend to vote more predictably along party lines (Fowler et al., 2023). To secure a majority vote in a close contest, each party must target moderate voters. Campaigns often do so by appealing to our negativity dominance, leveraging tactics

such as fearmongering and personal attacks against members of the opposing party. For any number of reasons, bitterly partisan discourse can be widespread and accessible despite the fact that most Americans do not identify with either political extreme.

Comparing the averages for groups ignores their overlap, and comparing only those at the extremes omits what may be the majority in the middle. For example, alarming stories contrasting the very rich and very poor highlight the extremes of an income or wealth distribution, stating or implying that there is a gap between them. What this ignores is that most of the population usually falls in between at more stable, average, and typical values. The distribution of income or wealth is seldom bimodal, with low and high values separated by a gap in between. When the distribution is in fact unimodal, with values in the middle more common, focusing on the extremes overlooks the accomplishments, concerns, desires, and needs of most people. Figure 7.1 shows the global distribution of income at three illustrative points in time (Roser, 2023). The top graph (1800) represents most of human history, with ubiquitous poverty. There was a modest spread of incomes, but most people were near the middle of a unimodal distribution. The middle graph (1975) shows that fairly recently, many people around the world began to prosper. The transitional decades of rapid progress created a mildly bimodal distribution, with a gap separating those who had and had not escaped poverty. The bottom graph (2015) shows that as an increasingly larger majority of people in every region escapes poverty, what emerges is a unimodal distribution that features a wide dispersion of incomes but no gap separating two peaks in a bimodal distribution. In sum, Fig. 7.1 reveals an improvement in incomes, both during and especially following the transitional period when a gap was present. The timeline for this transition differs by region or country, and even within the past century, there are tragic counterexamples involving the death or suffering of very large numbers of people (e.g., the Great Depression, the Russian civil war and Bolshevik Revolution, the Chinese Great Leap Forward, the Cambodian genocide, and the ongoing Syrian Civil War), but the overarching historical trajectory is that nearly everyone begins in poverty and, over time, increasing numbers of people manage to escape poverty.
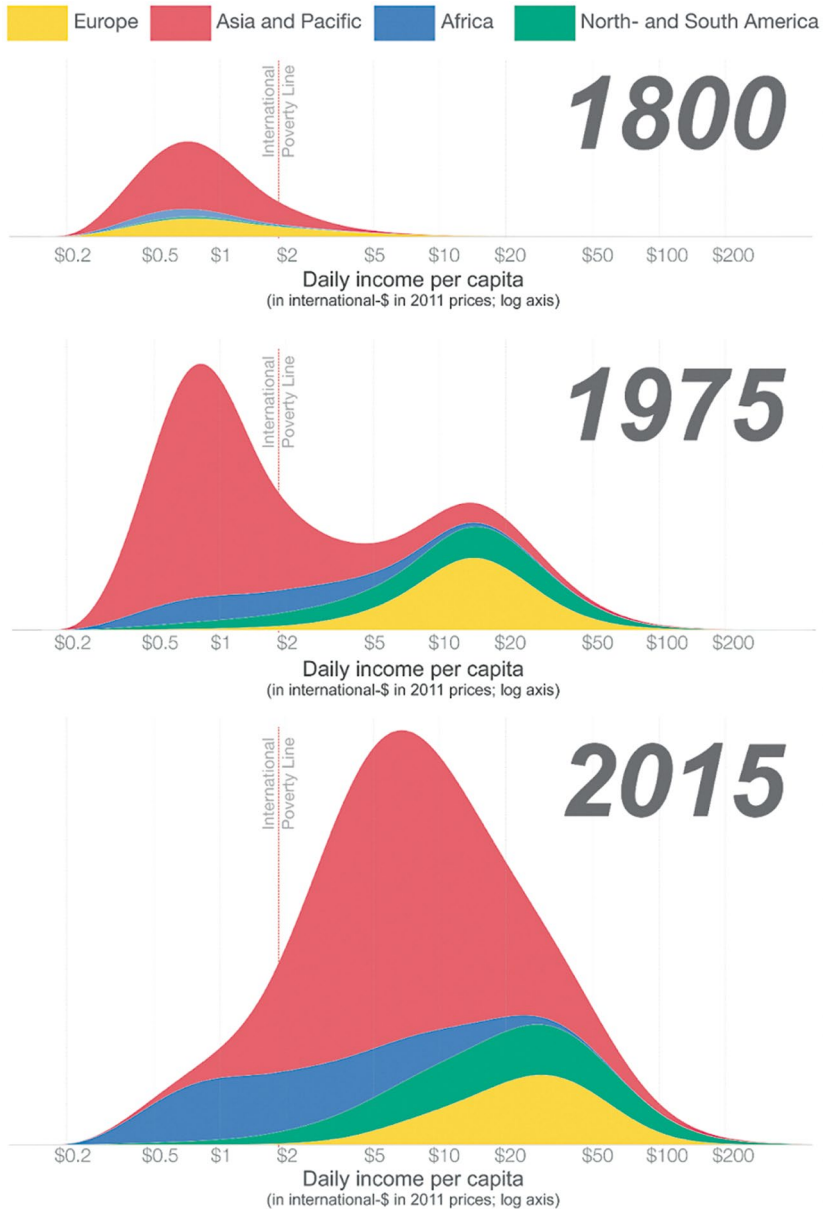
Fig. 7.1 Change in the global distribution of income (Roser, 2023)

Identifying the majority in the middle of an income or wealth distribution, rather than focusing exclusively on the smaller subgroups at each extreme, helps to correct the oversimplified narrative of a corrosive and widening socioeconomic gap. Extreme poverty persists as one of the most urgent humanitarian crises, but fewer people remain mired in dreadful living conditions as global poverty continues its downward trend (Hasell et al., 2023). Rejecting the alarmist and simplified perception of a stark income or wealth gap does not mean denying the existence of poverty, but instead recognizing the nuance of the world's socioeconomic condition. When we view the world as more than just a battle between the very rich and very poor, we also give light to students at top universities who rely on food pantries, young families incapable of buying a home, full-time employees unable to afford life-saving medical treatment, and millions of others who struggle invisibly within the middle part of the income distribution. However, to address issues faced by global citizens in the middle, along with issues faced by those in extreme poverty, we must understand where and when things have improved. Recognizing that poverty is decreasing prompts questions about how gains have been attained and what we can do to ensure the trend continues, or even accelerates, in the future. Ignoring progress risks taking it for granted and failing to learn about steps that have proven successful in the past.

A second type of missing information in many alarming stories involves what Rosling et al. (2020) call "lonely numbers." A single large or small value may seem impressive. A single instance or occurrence of something bad, especially if there is an identifiable victim, can seem concerning. What's missing is a lack of context. Is the story about an atypical case? Is an important trend being obscured? For example, more extreme weather events receive more extensive media coverage. News about a hurricane that makes landfall and causes death and destruction will spread faster and further than news about a storm that neither becomes a hurricane nor makes landfall, with news about calm weather over the ocean virtually nonexistent. Drawing our attention to the least typical instances and failing to provide context can severely bias our assessments of threats and opportunities.

Negativity bias is not unique to natural disasters. Media reports and social media activity can bias the perceived risk from any type of threat by

focusing on lonely numbers. For example, whereas car crashes are common, involve relatively few people, and seldom make the news unless there is an exceptional feature (e.g., a celebrity was involved), commercial airplane crashes are rare, involve many passengers, and are much more newsworthy. The ease with which we can recall stories about plane crashes inflates our perception of danger despite the fact that air travel is considerably safer than driving. The risk of death for driving has been falling modestly for many decades, but the risk of death for commercial air travel has been declining much more rapidly and has long been much lower. The Wikipedia entry on aviation safety provides a wealth of history and context, including data from the US Bureau of Transportation Statistics showing the risk of death for commercial air travel to be about 750 times lower than risk of death driving the same distance (Wikimedia Foundation, 2024a). Whether missing information is implied by the story of a gap or the presentation of a lonely number, a critical thinker can identify what is missing and find relevant information to reach a better-informed conclusion.

Question Assumptions

An alarming story may rely on hidden assumptions, and a few common varieties will be examined here. First, dire predictions often assume recent trends will continue. Many trends simply do not, or cannot, continue for very long. For example, forecasts of global overpopulation and the depletion of essential natural resources have been made for centuries, and they have invariably proven to be mistaken. Malthus (1798) famously anticipated mass starvation on the grounds that population was growing exponentially, but food production was only increasing in a linear fashion, and given sufficient time, any exponential increase will overwhelm a linear one. Malthus correctly described trends in observed data, but he mistakenly assumed they would continue. Technological advances in food production and distribution have enabled the world to feed its growing population better over time. Although tens of millions of people still live in a state of crisis-level food insecurity that requires urgent action, famines that take lives through starvation and hunger-induced disease are

increasingly attributable to political failures rather than technological difficulties in producing enough food (Hasell & Roser, 2023). Nearly two centuries later, Ehrlich (1968) doubled down on the same mistake, predicting not only global famines beginning in the 1970s, but also the imminent scarcity of many key natural resources (e.g., minerals, metals, freshwater, fossil fuels, clean air). These predictions failed because they rested on the faulty assumption that trends would continue despite what economists had long argued about the powerful incentives to expand production, conserve, and substitute alternatives if the price of a resource rises due to scarcity (Simon, 1981).

A second type of problematic assumption is our tendency to overgeneralize. To efficiently make sense of the world, we need to categorize (Kahneman, 2011), but we often use inaccurate or outdated categories. To improve accuracy, the challenge is to look for true similarities and differences both within and between categories. For example, the "us vs. them" mentality in partisan politics can oversimplify complex issues, obscuring the diverse perspectives within political groups and commonalities between them. Likewise, media reports often use outdated stereotypes such as the lazy or entitled millennial, a generation perhaps better characterized as the "unluckiest generation" because they face greater challenges than earlier generations (e.g., lower economic growth, Van Dam, 2020; rising home prices and higher mortgage interest rates, Mark, 2023; mounting student loan debt from rising education costs, Federal Reserve Bank of New York, 2023).

Inappropriate generalizations are made not only on the basis of faulty categories but also from potentially misleading terms and examples. One commonly abused term is "majority," which can be highly ambiguous. For example, a majority of countries voted in support of the United Nations Declaration of Human Rights in 1948, and a majority of voters in the United Kingdom preferred to leave rather than remain in the European Union in 2016. There was a majority in both cases, but whereas the degree of support for the human rights declaration was nearly unanimous (48 nations voted in favor, 0 voted against, 8 abstained, and 2 did not vote), the Brexit referendum sharply divided voters, passing with 51.9% of the votes.

Generalizing from vivid examples can be unwise, too, as the examples that reach us are often the exception rather than the rule. Extensive media coverage of high-profile court cases, such as the JonBenet Ramsey case in 1996, can lead the public to believe such incidents are more common than they actually are. The Ramsey case sparked fears about child safety even though "stranger danger" is an overstated concern. The widely circulated statistic "460,000 children go missing every year" is misleading, as it includes anyone under 18 missing for more than one hour (Let Grow, 2022). The prototypical case is a teenager who runs away and returns home safely on their own, not the type of abduction that stokes fears among parents. Wolak et al. (2016) found that only 105 of the reported cases of missing children were the latter type of "stereotypical kidnapping," and even in these most worrisome cases, 92% made it home safely. Child safety remains a serious concern, but the data may not justify the anxiety, often acute, that the messaging, policies, and procedures grounded in the notion that all strangers should be considered dangerous cause for countless millions of children, parents, and others.

A third and final type of hidden assumption is that something is destined to remain unchanged. In fact, many things appear constant only because they change slowly and it can be foolish to assume innate characteristics ensure things will not change. For example, despite widespread assumptions that people in particular regions or nations were, or still are, destined to remain in poverty, the graphs on income distribution in Fig. 7.1 show significant change occurring all around the world. Just as economic success or failure has been mistakenly attributed to innate characteristics of specific cultures, so too have social behaviors, which have proven to be similarly malleable. Globalization and cross-cultural exchanges have driven large changes in attitudes toward gender roles, food preferences and dietary habits, fashion and clothing styles, marriage and dating practices, educational and career aspirations and attainment, religious practices, parenting styles, and many other norms and behaviors once deemed innate and immutable within a culture or society.

Slow change is still change, even if it seldom makes the news. Human flourishing often evolves in a gradual, incremental manner. Learning about improvements for people, countries, religions, or cultures requires a source that tracks and presents indicators in a user-friendly format, such

as the website of Our World in Data (https://ourworldindata.org), a non-profit organization providing a wealth of data on population, health, energy, environment, food, poverty, education, innovation, well-being, human rights, democracy, violence, and many other topics. Another way to learn how much technology, culture, and values have changed over generations is to talk to grandparents (Rosling et al., 2020). Particularly for those one or two generations younger, it can be shocking to hear just how much has changed within one human lifetime. Whether a story extrapolates from recent trends; generalizes from faulty categories, misleading terms, or vivid but atypical examples; or mistakes slow change for destiny based on innate characteristics, a critical thinker can identify questionable assumptions and find relevant information to challenge them.

Broaden the Context

An alarming story often omits or selectively presents the relevant context, and we will examine several ways such oversimplifications can occur. First, a story may adopt a single perspective rather than providing a more balanced treatment of the issues. Simple ideas and single causes can be very attractive, fostering the illusion of a solid grasp of a problem without having to grapple with nuance or finesse. Examples include attributing economic inequality solely to government policies (which ignores factors such as technological change, globalization, and educational disparities), believing climate change can be stopped by simply banning fossil fuels (which overlooks the complexities of energy needs, economic impacts, and technological innovation), and thinking the removal of sugar, or added sugars, from foods and beverages will solve the obesity epidemic (which ignores the multifaceted nature of diet, exercise, genetics, and socioeconomic factors).

Experts themselves are often prone to a one-sided depiction of a problem or a proposed solution. Expertise is highly specialized, and someone with training in, deep knowledge of, and a personal or professional allegiance to one theoretical or practical approach may overlook plausible alternatives or broader approaches. As the old saying goes, "when the

only tool you have is a hammer, everything looks like a nail." As activists become committed to a particular cause, they also tend to specialize in the identification of a certain type of problem and propose a solution consistent with their agenda. Alarm rather than accuracy can help draw attention to an issue and raise funds. Ideologues of all kinds tend to focus on one style of solution to all the problems they consider, overlooking the value of different perspectives while issuing dramatic, overgeneralized statements that do not recognize nuance. For example, whereas libertarians might argue free markets can solve all economic problems, dismissing alternative ideas as socialist and ignoring areas where regulation is warranted, Marxists might claim eliminating capitalism will solve all societal issues, dismissing any benefits of markets and ignoring the failures of previous communist states. Expertise and affiliation confer many benefits, but no perspective should be considered in isolation in a world rich with diversity and interconnection. Technological assistance can help to discover alternative perspectives (e.g., both Internet search and AI chat can be quite good at identifying or generating perspectives to consider).

A second way a story can leave out important context is by blaming a problem on bad actors with bad intentions, which can help to make the world feel predictable. In the United States, for example, the President is arguably given more credit for good economic trends, or blame for bad trends, than they deserve. Although the President can influence economic activity directly or indirectly (e.g., via tax and spending policies, regulations, or tariffs), there are also significant constraints (e.g., the need for Congressional approval, the impact of judicial oversight) and outside influences (e.g., the global economy and ordinary business cycles) beyond the control of the White House. Outcomes often have multiple causes and are the result of complex systems, and scapegoating steals the focus from a search for a more constructive response to a problem. Bad things can happen without anyone intending it, and it is often better to look for causes than villains. Likewise, good things can happen without identifiable heroes, in which case it is often better to look for and learn about the system of incentives, not the individuals, responsible.

A third way a story can omit context is by insisting on the urgency of identifying a problem and taking action. Time pressure encourages the

fast, automatic, and intuitive thinking of what Kahneman (2011) referred to as System 1, rather than the slow, deliberate, reflective thinking of System 2. Situations are rarely as urgent as claimed, but activists and politicians want us to believe drastic action is required right now. As noted earlier, predictions of imminent population crisis, mass starvation, and resource depletion have failed for centuries. Other dire predictions of environmental catastrophe unless immediate, drastic action is taken have been mistaken, too, with the problems either being misidentified (e.g., the global cooling panic of the 1970s) or successfully managed with technological developments and measured policy responses that emerged from careful deliberations weighing the costs and benefits of alternative approaches (e.g., acid rain in the 1980s; ozone layer depletion in the 1980s and 1990s).

When a story sounds an alarm with urgency, there are many steps you can take to foster critical thinking by providing System 2 with the information, and the time, to operate effectively. Take your time, gather more information, insist on data, and consider a full range of scenarios, not only the best or worst case. Be wary of predictions and drastic action. Ask about the track record of similar predictions, the side effects or unintended consequences of the recommended actions, and ways to test predictions about what is likely to happen with or without intervention. Remember that step-by-step practical improvements may be less dramatic than taking drastic action, but more effective at solving problems. Whether a story focuses on a single perspective, blames a problem on bad actors with bad intentions, or insists on urgent action, a critical thinker can broaden the context and find relevant information to inform an appropriate response.

Summary and Conclusions

Discussions of critical thinking tend to focus on how we process information, but being proactive about how we obtain information may be at least as important. Information you encounter haphazardly will not provide a representative sample of the lived experience of human beings drawn from any population of interest. Following current events through

traditional or social media tells you what others believe is important moment by moment, but it selectively exposes you to a negatively biased sample of events from around the world. Coupled with the negativity dominance of human psychology, negatively biased information can prompt fear, anxiety, and helplessness rather than a better understanding of the objective reality and a constructive approach to problems that deserve our attention.

Despite what may be the best of intentions, the sources that generate alarming stories each have incentives to do so. Journalists face intense pressure to capture and maintain an audience, and social media influencers face similar challenges as they attempt to build and hold a large base of followers. An implicit understanding of psychological negativity dominance can help journalists or social media influencers reach more people by centering attention on bad events or short-term, localized trends that seem alarming when generalized. Gradual improvements taking place more widely, at a slower pace, can remain invisible. The everyday users that make up the lion's share of social media networks routinely post about problems and world events, often engaging in virtue signaling to demonstrate their concern and imply their perspective is the morally appropriate choice. Scientists, activists, and scientist-activists tend to accentuate the negative to help secure funding—and, for scientists, to publish their work—on the grounds that an important problem is being studied or addressed. Politicians are also in the business of convincing people there are serious problems they can tackle if you vote for them. We are not questioning the integrity of members of any of these professions or the legitimacy of concerns and issues they raise. Rather, we are merely observing that the challenges they face to advance their interests—such as their need for an audience and external support—incentivizes them to discuss, and perhaps exaggerate the extent of, particular problems. What is often missing is the context to help you think carefully about the nature, scope, causes, trajectory, and solutions to a problem.

Because there are so many forces negatively biasing the information that reaches us, and so many psychological forces contributing to a negativity dominance in how we cognitively process and emotionally respond to information, critical thinkers need to take steps to obtain information that reflects a more accurate picture of the true state of the world and how

it has been changing over time. Two very broad ways to do so each entail a conscious effort to find information rather than allowing it to find us.

First, have conversations with people about their lives. We get a more representative sample of actual human experience from those we are in touch with directly, such as family, friends, colleagues, and even strangers who cross our paths in our daily lives. We can also leverage the strengths of social media by striking international conversation and reading first-hand accounts of experiences from ordinary people across the globe. Talking to people who are experiencing events firsthand and possess "insider's information" can be a more authentic source than news that arrives on the screens of our devices after being created and curated with a distinct negativity bias. Through conversations, we learn about the experiences and concerns of ordinary people (as opposed to an overrepresentation of high-profile individuals such as athletes, musicians, politicians, or other celebrities), the risks and opportunities we are likely to encounter (as opposed to highly atypical cases in remote locations), and how values are changing over time (as opposed to an assumed destiny unfolding due to innate factors).

Second, seek less biased sources of information as an alternative or supplement to those that target your attention. Rather than learning mostly or entirely from traditional or social media, learn from sources such as Our World in Data. Find things for yourself via Internet searches and strive toward a comprehensive understanding of both sides of a disagreement when appropriate. Probe ideas with an AI chat. Each of these sources and techniques has its own limitations, of course, but they can be very good at providing perspective and context along with pertinent data, which helps with issues of definition, measurement, sampling, analysis, and interpretation. These tools can be used to find better information than is likely to find you:

- Look for long-term trends rather than discrete events. How has the rate of a well-defined category of events changed over years or decades, rather than what happened just once or over a short time frame?
- Look for general trends and patterns rather than localized exceptions. What is usually true, for large numbers of people, and how does a pattern systematically vary across relevant contexts or conditions?

- Notice that things can be both bad and getting better. Don't assume something bad must be getting worse, nor that improvement warrants complacency. What has led to progress in the past, and how can we do even better going forward?
- Learn more about the history of the subject matter. Historical context will reveal long-term trends as well as important discrete events, identify general trends as well as localized exceptions, and show that things can be bad and getting better.

When we engage with news, we should bear in mind how negativity dominance manifests itself in our use of media. We feel little need to learn about small successes because they pose no threat to us; just reading a headline is enough in those instances. A threatening headline, on the other hand, makes us more likely to click to see if there is important information. Likewise, we should bear in mind how negativity bias influences the types of headlines we are likely to see. We should expect most news to be bad. Reporting on disasters can help to bring relief aid, reporting on emerging concerns can prompt discussion of solutions, and reporting on scandals can hold people in positions of power accountable. There are many valuable functions served by journalists that emphasize negativity, as well as social media posts that draw attention to the news and the scientists, activists, and scientist-activists who study and address problems. It would be a mistake, however, to infer from the preponderance of bad news that the world is exclusively bad, or getting worse. Many of the incentives faced by those who create and disseminate news through traditional or social media outlets can lead them to prioritize negativity. Critical thinkers will recognize that bad news from anywhere in the world is much more likely to reach them than good news, which means that keeping up with the news is insufficient to develop an accurate understanding of the state of the world or how it is changing. Accuracy requires additional information sources that provide the history, context, proportion, and perspectives missing from sensationalistic news designed to grab attention. A dearth of positive news headlines does not mean a situation is helpless. Good news often resides in data and sources you have to uncover yourself, but they are easier than ever to find.

A critical thinker trying to find additional information with less negativity bias can use Internet searches and AI chats to look for what's missing, question assumptions, and broaden the context. These tools are widely available. For example, the penetration rate for smartphones is about 70% worldwide and rising each year (Laricchia, 2024); even the lowest regional penetration rates for smartphones (e.g., in sub-Saharan Africa) are above 50%, which says a lot about global access to electricity and cellular service. Both Internet search and AI tools can be democratizing by raising the floor for those with low levels of knowledge, skills, or experience in critical thinking, bringing it within reach for most of the world's population. For example, to explore a potentially complex or nuanced subject, one can search for relevant pages on trustworthy websites. Our World in Data is a terrific resource, and the crowdsourced nature of Wikipedia enables it to provide more perspective and context on an important issue than all or most major news sources. One can prompt an AI to do some of the heavy lifting by asking not only for information, but also for help in thinking critically about information. Prompts can ask what might be missing, how to challenge implicit or explicit assumptions, and what broader context might be helpful to understand. Freely available AI tools are already very good at generating ideas and presenting alternative perspectives, they will surely get better in the future, and they do not require extensive expertise or high levels of cognitive ability to use effectively. Someone motivated to think critically about an important topic can do so more easily, and in many cases much more effectively, than ever. At the same time, it must be acknowledged that these tools can be used to populate an echo chamber and reinforce one's prior beliefs. Critical thinker must be willing to challenge their own beliefs and avoid reasoning fallacies (Sternberg & Halpern, 2020) rather than simply seeking confirmation (Nickerson, 1998).

In contrast to information that users seek on their own, information that seeks its audience has often been curated by algorithms designed to manipulate the audience, such as by monopolizing its attention or instilling a sense of alarm and urgency (Costello et al., 2023). Just as we can actively seek information with more balance and context than sensationalism, we can disable notifications or utilize the "not interested" feature in most social media apps to curate algorithms that limit our exposure to

sources heavily steeped in negativity bias. Being a mindful consumer of traditional or social media means understanding that algorithms want you to engage with more content. Even when the news informs you of a terrible event, you have the strength and ability to withhold the urge to keep clicking on pessimistic headlines. You can, instead, slow down and look for earnest sources explaining practical ways to help by learning more and getting involved. Likewise, you can resist the urge to be an audience for the ideal selves that many people present on social media. Your engagement will fuel their presence on your feed and promote further despair if you make invalid comparisons to your own life.

Even when it is not feasible to thoroughly explore and assess every problem crossing our screens, it is crucial to remember that a sense of helplessness only reinforces the influence of negatively biased media and hinders one's ability to move forward. Even when things seem insurmountably bleak, we can benefit from recognizing that historic progress comes from small steps taken by those who believe in our potential for positive change. In contrast to encapsulated information reaching us as its target, information search is more open-ended and lends itself to surprises and further exploration. We can browse, skim, dive into details, or pursue new leads by scanning what is available, following links, or asking follow-up questions. Actively engaging in the search process and open-mindedly reviewing what it uncovers can help to alleviate stress and hopelessness, nurturing instead a more constructive mindset filled with purpose.

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