THE SYDNEY SYMPOSIUM OF SOCIAL PSYCHOLOGY

The Social Psychology of Gullibility

Fake News, Conspiracy Theories, and Irrational Beliefs

Edited by
JOSEPH P. FORGAS
AND ROY F. BAUMEISTER

A Psychology Press Book

ROUTLEDGE

The Social Psychology of Gullibility

Gullibility, whether we like it or not, is a fundamental characteristic of human beings. In *The Social Psychology of Gullibility*, Forgas and Baumeister explore what we know about the causes, functions, and consequences of gullibility, and the social psychological processes that promote or inhibit it.

With contributions from leading international researchers, the book reveals what social and cognitive psychology contribute to our understanding of how human judgments and decisions can be distorted and undermined. The chapters discuss the nature and functions of gullibility, the role of cognitive processes in gullibility, the influence of emotion and motivation on gullibility, and social and cultural aspects of gullibility. Underpinned by a wealth of empirical research, contributors explore captivating issues such as the psychology of conspiracy theories, the role of political gullibility, gullibility in science, the role of the Internet in fostering gullibility, and the failures of reasoning that contribute to human credulity.

Gullibility has become a dominant topic of interest in public discourse. *The Social Psychology of Gullibility* is essential reading for researchers, social science students, professionals, and practitioners and all those interested in understanding human credulity and the role of gullibility in contemporary public affairs.

Joseph P. Forgas is Scientia Professor at the University of New South Wales. His research focuses on cognitive and affective processes in interpersonal behavior. For his work he received the Order of Australia, and the Distinguished Scientific Contribution Award from the Australian Psychological Society.

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The Sydney Symposium of Social Psychology series

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1 *Homo credulus*

On the Social Psychology of Gullibility

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Introduction

Gullibility as a scientific concept does not currently feature prominently in social psychology research, and one would search in vain the subject indexes of many social psychology textbooks for entries under "gullibility." So why devote an entire book to this topic, and why do it now? The answer is twofold. First, in the past few years, and especially since Brexit, the election of Trump, and the emergence of crypto-fascist dictators in a number of countries including some inside the European Union such as Hungary (Albright, 2018), the question of human gullibility has become one of the dominant topics of interest in public discourse (see also Cooper & Avery, Chapter 16 this volume; Myers, Chapter 5 this volume). People opposed to these developments often suspect that those who voted for them must be gullible.

Second, even though gullibility is rarely studied directly in social and cognitive psychology, these disciplines do have a great deal to contribute to our understanding of how human judgments and decisions can be distorted and undermined. In consequence, a book dealing with the social psychology of gullibility is highly topical, and as this volume demonstrates, there is a wealth of directly relevant empirical research we can draw upon to understand this phenomenon (Gilbert, 1991; Gilovich, 1991). The objective of this volume is thus to provide an integrative survey of the current state of social psychological research on human gullibility, and so offer an informative contribution towards understanding the role of gullibility in contemporary public affairs.

What Is Gullibility?

Gullible as a term was first recorded in 1793, derived from the earlier word "cullibility" (1728), and possibly connected to "gull," a cant term for "dupe, sucker," which in turn is of uncertain origin. Its etymological roots can be traced perhaps from the bird (sea gull), or to the verb "gull" (to swallow). Some of the synonyms of gullibility, such as credulity, artlessness, ignorance,

inexperience, simplicity, also confirm the pejorative character of gullibility. So consensually negative social evaluation, as we shall see later, is an essential component of gullibility.

The standard definition of gullibility, as a failure of social intelligence in which a person is easily tricked or manipulated into an ill-advised course of action, confirms this view. Gullibility is closely related to credulity, which is the "tendency to believe unlikely propositions that are unsupported by evidence" (Wikipedia). Gullibility is thus a factor in social influence processes, as a person's willingness to believe false or misleading information facilitates the influence.

The Criteria for Gullibility

Is there some accepted standard of truth or reality relative to which a person can be judged as gullible? Conceptually, gullibility can be inferred in one of two situations. Either an individual's beliefs are manifestly inconsistent with facts and reality, or an individual's beliefs are at variance with consensual social norms *about* reality. A believer in a flat earth can now be labeled as gullible, since there is ample empirical evidence confirming the true state of affairs. However, the question of criteria for gullibility is far more complex. We often use the term *gullible* to describe persons whose beliefs violate some consensual rather than scientific standard of how reality should be viewed. Serious and largely unresolved philosophical issues about the nature of knowledge within the domains of ontology (the philosophical study of what *is*, the nature of reality), and epistemology (the philosophical study of *how* do we know) also make the unambiguous definition of knowledge, and by implication, gullibility, problematic (see Krueger, Vogrincic-Haselbacher, & Evans, Chapter 6 this volume).

Adopting a Popperian epistemological view, and accepting that all knowledge is imperfect and temporary, offers little help towards defining gullibility. Even on matters amenable to scientific research and potential falsification, such as the iatrogenic climate change theory, there remains ample scope for agnosticism and disagreement (Lewandowsky, Oreskes, Risbey, Newell, & Smithson, 2015). Our knowledge about the world is imperfect, and the more complex the question we address, the more likely that unequivocal answers are difficult to find. We can label those who question the truth of the climate change hypothesis as "gullible," or with a rhetorical flourish, as "deniers," as if there was an absolute and incontrovertible truth here to be denied (see also Jussim, Stevens, Honeycutt, Anglin, & Fox, Chapter 15 this volume). Yet those who remain skeptical or agnostic on this issue can reciprocally label absolute believers in the climate change hypothesis as gullible. Believers in conspiracy theories also often see themselves as careful, motivated skeptics who are motivated by a quest to avoid gullibility, while those who doubt their beliefs are the gullible ones (see Douglas, Sutton, & Cichocka, Chapter 4 this volume;

Unkelbach & Koch, Chapter 3 this volume; van Prooijen, Chapter 17 this volume). As long as knowledge is incomplete and subject to future falsification, identifying gullibility is more a matter of consensual value judgment rather than a statement of incontrovertible fact. Gullibility may thus often be a matter of perspective, residing in the eye of the beholder. It is no wonder, then, that gullibility has been historically an endemic feature of all human societies, as the next section will suggest.

The Social History of Gullibility

Human cultural history is replete with striking examples of human gullibility (Greenspan, 2009; Koestler, 1967; Rath-Vegh, 1963). In an attempt to understand, predict and control the social and physical world, humans have created an amazing range of absurd and often vicious and violent gullible beliefs (Koestler, 1967). Ancient meso-American cultures believed that cutting out the beating hearts of thousands of their captives was essential to preserve the goodwill of their gods and to ensure a good harvest (Koestler, 1967, 1978). Throughout the Middle Ages, witches were tortured and burned to death for allegedly harming others (Pinker, 2012). As recently as at the beginning of the eighteenth century, even a well-educated person might still firmly believe in witches, werewolves, magic cures and magic potions, alchemy, and of course, a flat earth (Wooton, in Pinker, 2018).

Contemporary religious beliefs about virgin birth, walking on water, resurrection, or transubstantiation continue to persist yet they contradict everything we know about the world. Folk tales and literature abound with demonstrations of the pitfalls of gullibility. In the Bible, the serpent's deception, and Adam and Eve's gullibility are the primal source of humanity's eternal fall from grace. Homer's Trojan Horse is a classic tale of deception and gullibility, and Shakespeare's *Othello* is a tragedy brought about by credulity. In tales such as the "Emperor's New Clothes" we learn that the veil of consensual gullibility can sometimes be torn apart by a single voice that reveals the truth. In "Little Red Riding Hood," the heroine is first deceived, but then she learns the art of deception herself to deceive a second wolf. Even more instructive is the character of Pinocchio who had to learn to avoid being duped by others in order to become a full human being (!).

Examples of striking gullibility, self-deception, hubris, and wishful thinking continue to characterize human affairs to this day (Greenspan, 2009), including where one would least expect it, in the halls of academia (Jussim et al., Chapter 15 this volume). Sokal's famous hoax in submitting a text intentionally full of nonsense to a "reputable" post-modernist journal where it was duly accepted is a well-documented recent example of academic gullibility in the humanities. More recently, Pluckrose, Lindsay and Boghossian (2018) perpetuated an even more impressive hoax, successfully publishing seven (!) explicitly nonsensical "academic" papers, including one using text from Hitler' *Mein Kampf* in highly reputable feminist and "grievance studies" journals.

In the economic sphere, irrational gullibility produces recurring investment "bubbles" at least since the famous "tulip bulb" craze in the eighteenth century. Our social rituals associated with April Fool's Day gain their popularity by allowing us to mislead others without adverse consequences, and so practice our skills of deception (Forgas, 2017). These examples, and countless others, suggest that far from being an aberration, gullibility seems a pervasive feature of the human condition. This pattern continues today, with sometimes alarming consequences, an issue we will turn to next.

Truth and Gullibility in Contemporary Public Life

Concern with gullibility in public life has become highly topical in recent years. Gullibility may have played some role in the election of leaders like Trump. His detractors regard his supporters as gullible for supporting a novice politician who claims to be a world expert on almost everything and has a narcissistic view of his own abilities (see also Myers, Chapter 5 this volume). Meanwhile, his supporters view his detractors as gullible for embracing the "politically correct" views and practices and relish Trump's overt, mocking rejection of what they regard as elite hypocrisy. Another recent surprise election outcome was Great Britain's vote to leave the European Union, marked by excesses of credulity on both sides. Voters willingly believed contradictory forecasts of either a smooth exit or impending economic catastrophe. Elsewhere, voters seem blithely willing to elect and re-elect quasi-fascist nationalist leaders who are destroying their hard-won democratic systems (Hungary, Poland, Turkey, Russia, Phillipines, Venezuela), or succumb to misleading messages laced by archaic nationalism and populism (Catalonia, Scotland, etc.).

Gullibility is found across the political spectrum. Fascist leasers from Mussolini and Hitler to Erdogan, Putin, and Orban have exploited voters' gullibility with disastrous consequences. Arguably, the fascism of Mussolini and Hitler was closely linked to the political left. The Nazi party was the "National Socialist German Workers' Party" that admired and copied America's New Deal, while Mussolini was lionized in US progressive circles (Goldberg, 2008). It is especially puzzling how a closed and quasi-religious system of thought such as Marxism could remain the dominant philosophical perspective of many left-leaning Western intellectuals for over a hundred years. This occurred, despite the fact that Marxism's economic predictions have been consistently wrong, its view of history as class struggle has been misconceived, and the social systems it produced turned out to be perhaps the most horrific and genocidal in human history. Part of the answer is that as Karl Popper (1947) showed, totalitarian systems of thought like Marxism are *constructed* to be unfalsifiable, and so their lack of predictive power can always be explained away by "true believers" (Koestler, 1967). Most religions have the very same immunity to disproof.

Over the past few decades, Marxism and Marxist intellectuals have promoted a range of social theories and movements to gullible followers

ostensibly to increase social justice and equality, but in reality, relying on the collectivist rhetoric of group rights, identity politics, and collective social class struggle as the sole method of social progress. These quasi-Marxist collectivist movements, like radical feminism and multi-culturalism, are fundamentally incompatible with the Enlightenment emphasis on the rights of the individual (Pinker, 2018). Arguably, some versions of radical feminism even display elements of classical conspiracy theories, suggesting the existence of an entirely fictitious gender-based conspiracy against women. True believers in such ideologies are no less gullible than earlier believers in similarly closed systems of thought.

One important recent influence promoting gullibility is the advent of Internet-based communication. Until recently, it was the privileged class of experts, truth-seekers, and truth-tellers who following the Enlightenment were institutionally established in our social systems and whose job it was to discover and communicate truth. They have now lost their privileged position and information monopoly, and it seems truth in public life is now also at risk. It would indeed be an ironic and paradoxical effect if the immense success of our "scientic age" would be undermined by the very scientific progress and information technology it helped to create. Given the damage that populism, demagoguery, "fake news," and the rising tide of identity politics and nationalism have produced in our public life, a better understanding of the social psychology of gullibility is now recognized as of considerable importance (Albright, 2018; Pinker, 2018; see also Cooper & Avery, Chapter 16 this volume; Myers, Chapter 5 this volume). This is one of the main objectives of this book. First, however, we need to consider *why* gullibility seems to be so prevalent across the ages, the task of the next section.

The Functions of Gullibility

Why is gullibility such a fundamental and universal characteristic of *Homo sapiens*? One of the psychological foundations of gullibility, paradoxically, appears to be the universal human capacity for trust – to accept secondhand information we receive from others as a proxy for reality (Deutsch & Gerard, 1955). Indeed, our evolutionary history (Harari, 2014; Pinker, 2018; von Hippel, 2018) suggests that perhaps the most revolutionary cognitive development of our species occurred when we made the dramatic leap from being creatures who are bound by immediate reality to becoming creatures who can accept and act on consensual symbolic information or "memes" *as if* it was reality (Dawkins, 1976; Dennett, 2017). This ability to accept symbolic information from others and treat it as real is also one major foundation of all human cultural evolution (Harari, 2014). Unlike face-to-face primate groups that can only achieve cohesion and coordination as a result of their daily integrative interactions, large-scale social coordination in complex and impersonal human societies is only possible if individuals consensually accept various shared fictional notions as reality.

In these terms, most of human cultural history is essentially the history of changing fictional beliefs in various symbolic systems of thought (Harari, 2014). For thousands of years, social organization was predicated on shared religious beliefs, legitimizing the divine powers of priests and rulers. In Japan, this fiction was still firmly believed by the majority of the population in the middle of the twentieth century. Similarly, it was consensually believed for most of human history that enslaving others is natural and slavery continued to be a dominant form of economic organization until the recent past. From the current perspective these beliefs could be seen as examples of collective gullibility. Yet modern attitudes toward slavery also indicate gullibility, assuming that it was always morally offensive, when in fact slavery originated as a form of moral progress. It was originally a substitute for being killed in battle, and surrendering soldiers no doubt accepted slavery as an improvement over being tortured to death, which was often the fate of captives in primitive and hunter-gatherer societies. Even today, beliefs in dubious phenomena such as homeopathy, crystals, alternative therapies, anti-vaccination, supernatural interventions in daily life, and even alien abductions, not to mention conspiracies of all kinds, still abound (see also Douglas et al., Chapter 4 this volume; van Prooijen, Chapter 17 this volume).

Gullibility, in the non-pejorative sense of accepting, sharing, and considering *as real* unconfirmed and fictional social information from others can be highly functional and the cognitive foundation of large-scale human social organizations. Our current culture relies no less heavily on shared fictional beliefs than was the case in previous epochs. The idea of the nation state as a fictional symbolic entity is still the basis of much political organization today, yet it was only invented relatively recently (Harari, 2014). Or take the example of paper money: its usefulness is utterly dependent on the shared fictional belief that it has real value. The moment this shared fiction breaks down – in times of war, financial crisis, hyperinflation, etc. – the once valuable banknotes become useless bits of paper.

Our own epoch is based on the dominant cultural and moral values of the Enlightenment: the shared belief that humanism, individual liberty, and equality are universal, desirable, and natural values. Is this not also a fiction? Clearly liberty is neither a natural, nor a universal state for human beings in the real world. Equality is even more nebulous: as long as people are born with hugely different biological, intellectual, and physical characteristics, in what sense can one talk about, or even define equality as a meaningful universal value? As Dahrendorff (1975) showed, the two core values of the Enlightenment, liberty and equality, also happen to be mutually incompatible: any increase in equality reduces liberty, and vice versa. These core beliefs turn out to be just as fictional as the notion of divine royalty. Yet modern "gullibility" in believing these fictions has been extremely useful and allowed modern citizens to design and maintain perhaps the most successful civilization in human history (Pinker, 2018).

We could easily imagine some future utopia (or more likely, dystopia) in which our currently shared fictional beliefs about liberty and equality will be considered extremely silly and gullible. Yet this gullibility can be a very useful and adaptive cognitive mechanism that allows large and complex social organizations to function on the basis of such shared fictional beliefs. So today's accepted truth can easily become tomorrow's gullibility as our consensual beliefs change. If gullibility is indeed a universal, and often useful human characteristic, what are the psychological mechanisms that promote it? We shall turn to examining that question next.

Psychological Mechanisms of Gullibility

We have seen that there is good historical and evolutionary evidence indicating that a disposition towards gullibility – seeing the world not as it is, but as it appears and as others explain it – is a deeply ingrained human tendency. In a way, human evolution has left humankind with cognitive predispositions that promoted individual survival in traditional archaic societies, but that are perhaps less well adapted to thriving in a modern one (Pinker, 2018).

Within psychology, human judgments and decisions were traditionally studied using the model of the rational information processor (Piaget, 1950) or "naïve scientist" (Heider, 1958; Kelley, 1967) as the preferred model. However, growing evidence for irrationality or "bounded rationality" has now forced a fundamental re-think (Jones & Harris, 1967; Kahneman & Tversky, 2000), as massive violations of principles of rational thinking were demonstrated both in the laboratory, and in real life. Many of the failures in human reasoning also turn out to be highly resistant to monitoring and control (see also Fiedler, Chapter 7 this volume). Rather than simply demonstrating irrationality, such apparent cognitive failures can be better explained as having some adaptive functions (Gigerenzer, 2000; Simon, 1990).

In this section we shall briefly review some of the major cognitive mechanisms – many of which could also be conceived as evolutionary "mind modules" – that promote gullibility. These information processing mechanisms can be understood as representing either "cold" cognitive processes (such as limited processing capacity, reliance on heuristics or shortcuts, etc.), or by "hot" motivational tendencies where certain (often gullible) outcomes are preferred to others (see also Baumeister, Maxwell, Thomas, & Vohs, Chapter 2 this volume; Macrae, Olivier, Falbén, & Golubickis, Chapter 11 this volume; Dunning, Chapter 12 this volume; Mayo, Chapter 8 this volume).

The Search for Patterns and Meaning

The search for patterns, associations, and meaning is one of the most fundamental characteristics of the mental life of human beings, one that played a significant role in human adaptation and survival (von Hippel, 2018).

While sense-making is mostly adaptive and functional, the bias toward seeking and finding patterns and causation where there are none can also be a major source of gullibility. The bias toward meaning is particularly noticeable when people perceive order in objectively random (and hence, meaningless) events. Human beings tend to under-recognize randomness (see also Forgas, Chapter 10 this volume), a tendency often described as apophenia, a term that was originally used to label early stages of schizophrenia (e.g., Brugger, 2001).

A good example is the clustering illusion, a cognitive bias where people see patterns in randomly generated data (Chapman, 1967; Gilovich, 1991). Another well-known example is pareidolia, where people perceive patterns or familiar shapes and images in vague or otherwise random stimuli, such as the shapes of clouds, or, in shapeless inkblots as in the now discredited Rohrschach test. Meaningless, randomly generated word sequences when described as "psychology jargon," or as New Age wisdom can also be perceived as meaningful, a phenomenon Pennycook, Cheyne, Barr, Koehler, and Fugelsang (2015) labeled "bullshit receptivity" (see also Forgas, Chapter 10 this volume).

Over-perceiving patterns can be adaptive, as the cost of *not* perceiving a pattern where there is one is often higher than perceiving a pattern where there isn't one. Evolutionary psychologists suggest that pattern over-perception occurs because of the greater costs associated with Type II than Type I errors. Failing to make the connection between, for instance, a noise and the presence of the predator could easily result in death, but misperceiving a random noise as a threat has far less serious consequences. Adaptive fitness may thus be promoted by deviations from accuracy, for example, by over-perceiving the value of potential partners (see also Baumeister et al., Chapter 2 this volume), or by over-interpreting the welcoming behaviors of potential partners (Haselton & Buss, 2000).

However, the costs of over-perceiving patterns can also be significant by contributing not only to gullibility, but also to obsessive-compulsive disorders, and anxiety (Rachman, 1997). At a societal level, the tendency to infer causation in random or unrelated events often produces erroneous beliefs, superstition, mistaken inferences, causal mistakes, conspiracy theories, and often violence and aggression (Chapman, 1967; Hamilton & Gifford, 1976; see also Douglas et al., Chapter 4 this volume; van Prooijen, Chapter 17 this volume). Mistaken inferences are easily exploited by misleading political propaganda or advertising and play an important role in political judgment and decision-making (Myers, Chapter 5 this volume). Throughout history much cruelty and violence has been committed in the name of such deeply erroneous causal inferences (human sacrifice, witchcraft, etc.; Koestler, 1967; Pinker, 2012).

We reiterate, too, that one key innovation in human evolution involved deliberately shared information. Is it better to believe what everyone else believes, or to be ruthlessly skeptical? Religious skeptics may be superior at

truth-seeking, compared to their more gullible fellow group members who embrace the religion – but the benefits of skepticism must be compared to the costs of being exiled or killed as punishment for deviating from the consensus. At the group level, much progress in human history, including nation-building, has depended on military success. And military discipline often required soldiers to put aside their own skepticism so as to follow orders, more or less without question. An army of gullible soldiers blindly obeying orders would probably prevail over an equally equipped enemy that encouraged each soldier to make up his own mind at each step.

The Acceptance Bias

Another potential source of gullibility is the near-universal tendency for humans to accept rather than reject incoming information. Following Spinoza's philosophical reasoning, there is now strong evidence to suggest that the human being is born a natural "believer" (Gilbert, 1991). Information received tends to first be coded as "true," and subsequent negation requires further time and effort (see Krueger et al., Chapter 6 this volume). There are several ways that this overwhelming bias can be interpreted. In one sense, this can be due to the adaptive value of trusting others in closely integrated ancestral societies. If comprehending a claim and believing it initially amount to the same thing, then the human being indeed approaches the world with a gullible mindset (see also Mayo, Chapter 8 this volume). Research shows that even if a claim is coded as potentially false, there are powerful internal motivational mechanisms designed to restore coherence not by revising our pre-existing system of mental representation, but by actively discrediting the offending claim (see also Cooper & Avery, Chapter 16 this volume; Dunning, Chapter 12 this volume), an important mechanism of gullibility maintenance.

The acceptance bias shows how gullibility occurs when people are distracted by other information, emotion, or time pressure. Disbelief is a second step, following the first step in which understanding is simultaneous with believing. If people do not get to the second step, they will be more likely to believe whatever they were told in the first step.

The Power of Heuristics

Human beings are more prone to believe interesting, captivating stories and narratives that are salient and easy to imagine (Kahneman & Tversky, 2000). When we are exposed to salient, frequent, and thus easily remembered information, due to a strange "mental bug" in our information processing system, such information will also be seen as more true, reliable, and valid (see also Strack, Chapter 9 this volume; Unkelbach & Koch, Chapter 3 this volume). These mental shortcuts exacerbate the human inability to see the world as it really is.

Typically, what is familiar, readily available, salient, focal, representative, and colorful captures our imagination and attention, and is given far more credence than it deserves. When information is easily accessible and fluid, it is more likely to be seen as true (see Oyserman, Chapter 14 this volume; Unkelbach & Koch, Chapter 3 this volume). Reliance on heuristics can also be promoted by such ephemeral factors as the mood we happen to be in (Forgas, 2013). However, as Krueger et al. (Chapter 6 this volume) note, the emphasis on heuristics as a source of gullibility only offers, at best, a partial understanding. Heuristics can account for many "false-positive" errors (believing something that isn't true), but tell us little about false negatives – not believing something that is true (see also Mayo, Chapter 8 this volume).

Overbelief in the Self

Self-serving biases and distortions can be a particularly powerful motivational source of misjudgments and gullibility (see also Dunning, Chapter 12 this volume; Macrae et al., Chapter 11 this volume). We are always more willing to believe flattering rather than unflattering information about ourselves, even when the manipulative intent is transparently obvious (Jones, 1964; Matovic & Forgas, 2018). Overconfidence in the self may have some adaptive evolutionary functions (von Hippel, 2018), but the very same ego-boosting mechanisms could also promote gullibility and produce distorted judgments and perceptions. Considerable evidence now shows that people often hold their beliefs with far greater certainty than is justified, believe that their judgments are more accurate than is the case, and overvalue their expertise compared to others (see also Dunning, Chapter 12 this volume; Macrae et al., Chapter 11 this volume). It seems that people are not so much intuitive scientists as intuitive lawyers and politicians, marshaling evidence that confirms their convictions while dismissing evidence that contradicts them. They overestimate their own knowledge, understanding, rectitude, competence, and luck (Pinker, 2018).

Social Mechanisms of Gullibility

Humans are thoroughly social creatures, and our views of the world are fundamentally shaped by what others think and do. In a profound sense, all symbolic knowledge is socially constructed and shared. Comparing our views and ideas with the views and ideas of others is the way all symbolic reality is constructed (Strack, Chapter 9 this volume). Social psychology offers countless examples of how such "social epistemology" processes work. In an inherently ambiguous and uncertain environment, humans will spontaneously construct shared norms and standards that, however arbitrary, will impose a semblance of consensual order and predictability on their view of reality (Sherif, 1936).

Further, such consensual norms, once established, turn out to be very resilient and difficult to change – almost as if human minds abhor ambiguity,

disorder, and unpredictability (Jacobs & Campbell, 1961). What others think and do continues to have a powerful normative influence on human behavior, even if those norms are not internalized, and indeed, disbelieved (Asch, 1951). It turns out that the very process of openly discussing divergent views about reality can be a mechanism that promotes the acceptance of more extreme and biased views, as the voluminous research on group polarization phenomena shows (e.g., Forgas, 1977; see also Cooper & Avery, Chapter 16 this volume). It seems that human social evolution shaped human brains in such a way that we have become creatures who spontaneously monitor each other, and often construct and maintain a consensual rather than "true" representation of reality. Indeed, abundant research, dating back to the Asch conformity studies in the 1950s, has shown that people often favor getting consensus rather than pursuing the truth (for review, see Baumeister, Maranges, & Vohs, 2018).

Epistemological Failures to Monitor and Correct

These tendencies are exacerbated by a further epistemological failure as human beings fall far short from correctly evaluating incoming information in terms of its logical merits (see also Fiedler, Chapter 7 this volume; Krueger et al., Chapter 6 this volume). Models of formal reasoning, such as the ones proposed by Hume, Bayes, or Pascal, were developed to provide explicit (although not always mutually consistent) yardsticks by which human judgments can be corrected. However, these formal systems of reasoning are not a natural part of the way people typically think in everyday situations. This raises the question of why human brains evolved to process information in such an imperfect fashion. Is detecting the true state of affairs not always the most efficient and adaptive way to deal with reality? As we have seen, evolutionary psychology suggests that deviations from seeing the world as it is can indeed confer significant survival benefits. As Baumeister et al. (Chapter 2 this volume) argue, from the perspective of adaptive fitness, falling in love and perceiving our partners as more wonderful than they really are may be beneficial for reproduction and hence favored by natural selection, as it produces stronger pair bonds and better opportunities for raising successful offspring.

It seems that the human inability to recognize and correct such epistemological mistakes appears to be a built-in adaptation, a kind of metacognitive myopia. Metacognitive myopia refers to the apparently universal human inability to correctly evaluate the source, reliability, and validity of information we receive from others. Many reasoning deficits fail to be corrected at the metacognitive level, often indicating failures to monitor and control for the validity of incoming information, rather than simple failures of perception, encoding, memory, or information processing (Fiedler, Chapter 7 this volume). The role of metacognitive myopia as a contributing source of gullibility is still insufficiently recognized in psychology, as little attention is

given to the metacognitive task of monitoring and deciding what information to use or to ignore.

It turns out that judgmental errors often arise not because people are unable to process the information, but because they continue to accept and use false, misleading, unrepresentative, or even previously discredited sources of input. Most research concerned with heuristics and biases, including anchoring, representativeness, and availability effects (Kahneman, 2011; Kahneman & Tversky, 2000) tend to focus on faulty processing, neglecting the question of why humans seem unable to monitor, detect, and correct input biases. For example, people are notoriously poor in correcting for biased or unrepresentative sample sizes, and spurious experiences of repeated exposure to the same information will inevitably lead to the overestimation of the actual occurrence and validity of the event, even when judges are explicitly warned about such an effect (Fiedler, Chapter 7 this volume; see also Strack, Chapter 9 this volume).

Toward an Integration

As the previous sections show, there is now strong evidence in social and cognitive psychology showing that not seeing the world as it really is often turns out to be the baseline option for many human judgments. For a variety of reasons, evolution shaped human brains in such a way that they come equipped with information-processing programs that seem specifically designed to distort reality. While these "mind modules" may have been useful and adaptive in our ancestral environment, they can prove dangerous and dysfunctional in modern mass societies where interpersonal trust is often misplaced, and false information is easier to come by than ever (see also Myers, Chapter 5 this volume).

In the Stone Age context, where the world was stable and slow changing, trusting the messages and "memes" coming from well-known others to enhance one's limited experiences must have been of significant survival value, as most people were intimately known from birth to death, and as such, trustworthy. This is no longer the case in the modern, globalized world. Indeed, trust based on familiarity and the pressures of reputation began to erode with the spread of early cities, messages one gets from strangers or on the Internet are often explicitly designed to mislead us, for commercial, political, or personal reasons (see also Cooper & Avery, Chapter 16 this volume; Myers, Chapter 5 this volume). Human brains are poorly designed for fact checking, but are very good at accepting and incorporating secondary information (see Fiedler, Chapter 7 this volume).

These mental process, if not checked, can have very serious consequences in public life (see Cooper & Avery, Chapter 16 this volume; Myers, Chapter 5 this volume). For the last 300 years, since the triumph of the Enlightenment in Western civilization and the advent of the scientific age, seeking "truth" has become an act of faith in Western cultures. It is not coincidental that

following the French Revolution, temples of "reason" and rational thinking were meant to replace conventional religion as the promoters of this religion. Philosophers like Spinoza, Hume, Bayes, and Pascal provided an epistemological framework for truth-seeking, and a veritable army of well-qualified experts and scientists were engaged in the daily task of discovering and communicating what is "true." This system of truth-checking and truth-filtering now appears to be breaking down. The technological revolution we are now experiencing has removed any distinction between "truth" and "information," and without expert filtering, any claim, by anyone, anywhere, about anything is now capable of reaching almost everybody on our planet. This book was designed to cover the latest research on many of the issues and processes we discussed so far in order to better understand contemporary gullibility. We shall now turn to a brief outline of the structure and contents of the book.

Overview of the Volume

Beyond this introductory chapter, the volume is organized into four complementary sections, containing four chapters each. Part I deals with the nature and functions of credulity. In Chapter 2 Baumeister, Maxwell, Thomas, and Vohs suggest that gullibility frequently occurs as an evolutionary adaptation with distinct survival advantages. Evolution has shaped people to form lasting alliances, and this is promoted by overvaluing their partners (a form of gullibility). When in passionate love, people overestimate their partner's positive qualities, and they themselves change so as to match those positive impressions. This is a largely unintentional process that evolution has shaped because it improves pair bonding and reproductive success. Men may be especially gullible in terms of entering into a long-term commitment based on false assumptions about the level of expected rewards.

Chapter 3 by Unkelbach and Koch shows that even though people often seem gullible according to standards of logic and rationality, these errors are often adaptive. The chapter highlights the tension between people's gullibility and their nevertheless high functioning using the example of information repetition in the formation of beliefs. Although mere repetition increases the apparent truth of information, from a functional perspective, believing repeated information may actually have adaptive advantages.

In Chapter 4 Douglas, Sutton, and Cichocka analyze the factors that attract people toward conspiracy theories and suggest that conspiracy beliefs are often driven by epistemic, existential, and social motives. Their review shows that people who believe in conspiracy theories will not simply believe *anything* they hear, but focus on conspiracy theories that appeal to important functional psychological motives. Thus conspiracy believers should not simply be dismissed as gullible, even though such beliefs may often distort reality.

In Chapter 5 Myers looks at how psychological science can contribute to our understanding of gullibility in public affairs. He surveys a broad range

of evidence illustrating how misinformation and direct lies shape politics resulting in public beliefs about crime, migration, the economy, or climate change. Social-cognitive dynamics such as the persuasive power of mere repetition, the availability heuristic, confirmation bias, self-justification, statistical illiteracy, group polarization, and overconfidence all contribute to these effects. The role of objective, truth-supportive and evidence-based scientific scrutiny and education, and the promotion of critical thinking is also discussed in counteracting these effects.

Part II contains four chapters dealing with the role of cognitive processes in gullibility. Chapter 6 by Krueger, Vogrincic-Haselbacher, and Evans offers a conceptual overview of issues related to gullibility in order to ground it in psychological science. They consider gullibility from various perspectives on inductive reasoning (Humean, Bayesian, Pascalian). Although gullibility can be easily represented as a special case of heuristic reasoning and predictable irrationality, it is more difficult to embed gullibility in a theory that describes successes and failures of reasoning under lawful conditions. The issue of irrational trust plays an important role in explaining the cognitive mechanisms that produce gullibility.

In Chapter 7 Fiedler proposes the term "metacognitive myopia" to describe the common inability to evaluate the history, reliability, and validity of incoming information. Such naive reliance on received evidence irrespective of its source (gossip, hearsay, advertising, anecdotes) persists even when bias is obvious. The chapter reviews extensive evidence for metacognitive myopia showing that people are often unable to ignore irrelevant information, make inferences based on unrepresentative samples, and ignore base rates. Metacognitive myopia suggests that gullibility is not simply the product of faulty reasoning, but is caused by an inability to monitor and evaluate information sources, and points to the social responsibility to monitor and control our judgments at the metacognitive level.

In Chapter 8 Mayo explores the role of gullible versus skeptical mindsets in producing credulity. She reviews empirical research showing that incoming information can be processed using either a gullible mindset in which acceptance is the primary process or a skeptical mindset in which rejection is the primary process. Her research shows that the skeptical mindset offers a strong and successful negation process that diminishes gullibility such as false memory and misinformation effects. Contextual cues or personality dispositions may induce a skeptical mindset, and mindsets may fluctuate from one moment to the next, depending on individual differences and context.

In Chapter 9 Strack discusses the role of social comparison processes in promoting gullibility. Social comparison can be driven by the motivation to learn from others (upward comparison) or boost one's own self-esteem (downward comparison). From a cognitive perspective, comparisons can influence judgments by activating standards and standard-consistent information that selectively increase the accessibility of some information. Within the domain of behavioral economics, facilitating comparisons may

affect people's utility assessments. Apparent gullibility may be due to such judgmental dynamics as illustrated by experimental results.

Part III of the volume features chapters dealing with affective and motivational processes in gullibility. Chapter 10 by Forgas explores the role of sub-conscious affective states and moods in producing gullibility. He describes several psychological mechanisms responsible for mood effects on gullibility and skepticism. A series of experiments are described showing that mild negative moods can decrease gullibility, including greater skepticism in truth judgments, reduced willingness to believe misleading information, the improved detection of deception, and reduced "bullshit" receptivity. The theoretical significance of these studies is discussed, and the practical implications of affectively induced gullibility will be considered.

In Chapter 11 Macrae, Olivier, Falbén, and Golubickis discuss how the self can bias information processing and gullibility. They suggest that the human mind may be easily deceived because it functions to optimize self-serving outcomes. For example, self-relevance is known to bias perceptual judgments. The chapter describes a series of experiments that explore the effects of self-relevance and ownership on decision-making, and the cultural determinants of self-prioritization. These analyses demonstrate that self-referential processing can trigger response biases and irrational or gullible decisions and judgments.

In Chapter 12 Dunning reviews an especially important phenomenon, self-gullibility, showing that people are particularly gullible as to their own capacities and beliefs. Research shows that people hold their opinions with too much confidence, endorse wrong answers with almost as much fervor as right ones, dismiss the opinions of others too much, and give greater credence to a belief when attributed to themselves. These failures are compounded by an inability to know when, how, and from whom to seek advice, and how to evaluate the quality of that advice. In order to overcome self-gullibility, people need to become more expert at weighing the credibility of internal beliefs and outside information rather than relying on the strength of their beliefs as a proxy for their validity.

Chapter 13 by Schwarz and Lee looks at a relatively little understood subliminal influence on credulity: olfactory signals. In most languages, suspicion is metaphorically linked with the sense of a foul, rotting smell, a link that is presumably adaptive, suggesting an evolutionary link to disgust and rejection. The chapter reviews experiments showing that incidental exposure to a fishy smell makes people more suspicious and curbs gullibility in a number of tasks. These effects do not emerge in response to other aversive smells. The results are discussed in the broader context of cognition as a situated, experiential, embodied, and pragmatic process.

Part IV presents chapters discussing the social and cultural aspects of gullibility. In Chapter 14 Oyserman examines the role of cultural fluency in promoting gullibility. Being part of a culture means knowing what to expect and this experience of *cultural fluency* makes daily life feel easy to process. In

contrast, *cultural disfluency* arises in situations in which experiences mismatch predictions. Mismatch is a signal that elicits more deliberate thought. The cognitive ease arising from cultural fluency can increase credulity, and conversely, exposure to cultural disfluency can reduce gullibility.

In Chapter 15 Jussim, Stevens, Honeycutt, Anglin, and Fox look at one of the most embarrassing examples of gullibility: scientific gullibility, defined as cases when data or reasoning do not justify a scientific conclusion. The authors show that scientists, often influenced by ideological bias, frequently and systematically violate their own rules. This includes making unwarranted conclusions based on inadequate samples, presenting preferred opinions as facts not supported by data, engaging in motivated reasoning, and accepting evidence that supports preferred conclusions. They may fall prey to excessive scientism, assuming that a finding being published establishes it as scientific fact, and they may also fall victim to status quo bias, maintaining the scientific consensus. The chapter concludes with recommendations for limiting scientific gullibility.

In Chapter 16 Cooper and Avery discuss an important social psychological aspect of gullibility: that communications should be reasonably truthful, that is, fall within an *envelope of legitimacy*. When propositions lie outside the envelope of legitimacy, an aversive feeling of gullibility may result that threatens people's self-esteem. One way to reducing the discomfort is to "double down" on the false belief, convincing oneself that we have not been duped at all. In support of this hypothesis, Donald Trump voters who exhibited greater sensitivity to feelings of gullibility were significantly more likely to believe their candidate's campaign promises, especially those that seemed most unlikely.

Chapter 17 by van Prooijen looks at the social and psychological mechanisms that lead people to believe in conspiracy theories. Conspiracy believers often claim to be rational skeptics, and many conspiracy theories feature very complex and well-articulated explanations. The chapter shows that reasonable skepticism is not a cause for conspiracy beliefs, as such beliefs correlate positively with other implausible paranormal and pseudoscientific beliefs and bullshit receptivity. Conspiracy beliefs also predict increased susceptibility to a cognitive biases, suggesting that belief in conspiracy theories is rooted in heuristic rather than analytic thinking, indicating dispositional gullibility.

In summary, our aim with this volume is to contribute to a better understanding of the social psychology of gullibility, an issue of considerable topical relevance today. In this introductory chapter in particular we have tried to survey some of the most important historical, cultural, evolutionary, and psychological perspectives that may help to explain gullibility as a fundamental characteristic of our species. The chapters were selected to offer a broad and representative overview of the most recent research developments in this intriguing area. As editors, we are deeply grateful to our contributors for accepting our invitation to attend the 20th Sydney Symposium

of Social Psychology, and sharing their valuable ideas with our readers. We sincerely hope that the insights contained in these chapters will contribute not only to the emerging science of human gullibility, but also to a better understanding of the role that credulity plays in human affairs.

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Part I

The Nature and Functions of Credulity