OPINION: The partisan brain: An Identity-based model of political belief

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Abstract *(117/120 words)*

Democracies assume accurate knowledge by the populace, but the human attraction to fake and untrustworthy news poses a serious problem for healthy democratic functioning. We articulate why and how identification with political parties–known as partisanship–can bias information processing in the human brain. There is extensive evidence that people engage in motivated political reasoning, but recent research suggests that partisanship can even alter memory, implicit evaluation, and even perceptual judgments. We propose an *identity-based model of belief* for understanding the influence of partisanship on these cognitive processes. This framework helps explain why people place party loyalty over policy, and even truth. Finally, we discuss strategies for de-biasing information processing to help create a shared reality across partisan divides.

The role of identity in political belief

"The Party told you to reject the evidence of your eyes and ears. It was their final, most essential command."

- George Orwell, 1984

In Orwell's famous novel, 1984, he described how a totalitarian government could manipulate the minds of its citizens through a state of perpetual war, government surveillance, propaganda, and aggressive police. The main protagonist in the book was responsible for constantly revising the historical record (i.e., actively creating falsehoods) to ensure it was always consistent with the current party line. The party ultimately demanded that citizens abandon their own perceptions, memories and beliefs in favor of party propaganda.

There is extensive evidence that political affiliations influence attitudes, judgments, and behaviors. While it is widely accepted that identification with a political party—known as **partisanship**—shapes political judgments such as voting preferences or support for specific politics, it is less obvious why political affiliations might shape perceptions of facts. For example, US Democrats and Republicans strongly disagree on scientific findings, such as climate change [1][i], economic issues, such that Republicans show much more optimistic economic expectations than do Democrats after Donald Trump's election in 2016[ii] [2], and even facts that have little to do with political policy, such as crowd sizes. For instance, Donald Trump's supporters were more likely than supporters of his political opponent (Hillary Clinton) or non-voters to mistakenly identify a photo of President Barack Obama's 2009 inauguration as being from Donald Trump's 2017 inauguration [iii]. These examples make it clear that people do not require an authoritarian state to ignore their own eyes and ears: partisan identities bias a broad range of judgments, even when presented with facts that contradict them.

The influence of partisan identities threatens the democratic process, which requires and assumes that citizens have access to reliable knowledge in order to participate in the public debate and make informed choices [3,4]. In the current paper, we describe how the tribal nature of the human mind leads people to value party dogma

over truth. Specifically, we introduce an *identity-based model of belief* that explains (1) why people willingly align their beliefs with political parties and (2) how partisan identities alter information processing from reasoning, to memory, implicit evaluation, and even perception. This model describes why party affiliation exerts such a strong impact on people's judgments that they often abandon their cherished values and beliefs in favor of party loyalty [5]. Although our tribal motives and cognitive structures have existed for millennia, increases in partisanship, the behavior of political elites, and the rise in social media (see Trends Box) help explain the recent surge of the fake news. In the final section, we discuss (3) strategies for de-biasing information processing to help create a shared reality across partisan divides. In addition to changing the goal to value accurate information, we introduce the idea of a *process based intervention*—targeted at the stage in information processing in which bias is entering.

SECTION I: Why political identities shape belief.

Political parties tend to reflect people's ideologies, i.e. a system of beliefs and values that represent one's worldview. Ideologies stem from a combination of cultural influences and affinities and are reflected in biological predispositions and personality characteristics [6,7]. These ideological orientations have a strong genetic basis [8], emerge early in life [9,10], and manifest in brain structure [11,12]. Because identification with a political party is a voluntary and self-selected process, people are attracted to political parties that align with their personal **ideology**. Indeed, the correlation between political ideology and party identification is very high, and has grown strong in recent years (e.g., identification with the Republican party is very highly correlated with conservative ideology in the US r ~.7 [iv]). This relationship varies across time and place, but there is reason to believe that political systems dominated by two competing groups may heighten partisan motives because they are particularly effective in creating a sense of "us" vs. "them" [13].

Although ideology and identity are often closely aligned, this is not always the case. Attitudes towards specific policies often depend on one's political party affiliation, rather than on the policy's actual alignment with one's ideological beliefs [5]. For example, in a series of studies, participants' attitude towards a welfare policy relied on

its alignment with their personal ideology (generous for liberal participants and more stringent for conservative participants) only when no information about party endorsement was provided. When such information was provided, participants strongly relied on it and preferred the policy that aligned with their party rather than their ideology [5]. Indeed, partisanship is one of the strongest predictors of voting behavior, regardless of policy platform [14,15].

Social Identity Theory [16] can help account for this phenomenon. According to the theory, people can define themselves according to who they are as individuals as well as their membership in various social groups (defining themselves as a woman, parent, professor, Democrat, or American). Likewise, evolutionary theory has argued that the brain evolved to detect coalitional alliances [17] and neuroimaging research has found that the human brain represents political affiliations, such as Republican or Democrat, similarly to other forms of social identity [18,19]. However, the relevance of any given social identity varies with social context. When a particular membership is made salient (e.g., at a political rally or election), people are more likely to behave and experience emotions in ways that are congruent with the activated social identity [20–22]. From this perspective, "reality is always interpreted from the perspective of a socially defined perceiver" [23]. Indeed, social identities have been shown to shape the way people interpret information [23,24]. In turn, interpretations of the world shape political attitudes, judgments, and behaviors. Because people believe that they see the world around them objectively, members of other parties who disagree with them are seen as uninformed, irrational, or biased [25]. This phenomenon, known as naïve realism, can exacerbate intergroup conflict and make it ever more difficult to resolve disputes between political groups [26,27].

Our ancient capacity for tribalism exerts a profound influence on contemporary politics: modern partisan identities (also known as politicized identities; [28]) motivate a wide range of cognitive processes, from reasoning to perception. This is especially likely when political parties are tightly woven with political ideology and fulfill important social goals—which is common in political contexts. Social groups fulfill numerous basic social needs such as **belonging** [29], **distinctiveness** [30], **epistemic closure** [31], access to power and resources [32], and they provide a framework for the endorsement of (moral)

values [33,34]. Political parties fulfil these needs through different means. For example, political rallies and events can satisfy belonging needs; party elites, partisan media, and think tanks provide policy information; in-group members model norms for action; electoral success confers status and power; and party policy provides guidance on the appropriateness of values [35]. To the extent that partisan identities fulfill these goals (see [36]), they can generate a powerful incentive to distort beliefs in a manner that defies truth—especially when the net value of these goals outweighs accuracy goals (see **Figure 1**). This is likely exacerbated when competing political parties threaten moral values and access to resources—two factors that are known to increase group conflict [32].

When different beliefs are in conflict with one another, people experience an uncomfortable cognitive state—known as **cognitive dissonance [37]**. Because cognitive dissonance is aversive, people are motivated to reduce that experience. In a famous case study, members of a doomsday cult were placed in a high state of dissonance when their prophecy that the world was going to end failed to come true. Rather than abandoning their belief in the cult, they actually increased their commitment to the belief system by rationalizing the failure of the prophecy and proselytizing others [38]. We suspect that political beliefs often operate similarly—when strongly identified members of a political party are confronted with the failure of their party or leader, many of them will be motivated to double down on their support for the party and may even try to recruit others to join their political party.

Similar to beliefs, people often experience dissonance when their goals are in conflict, and they can reduce this feeling by changing their goals. Although people often possess accuracy goals, in some situations other goals might take precedence. For instance, a highly identified Republican observing pictures of Presidential inauguration crowds is likely motivated to find evidence that their party leader is more popular than the previous Democratic president. Reducing the importance of being accurate, or shifting one's assessment of what constitutes accurate information, diminishes cognitive dissonance and therefore reconciles the person with their identity goals. The goal to reduce cognitive dissonance is likely to be higher among people who have high need for closure [39], which is modestly correlated with conservatism [7]. Conservatives also

value group loyalty and deference to authority more than liberals [40], factors that may exacerbate group cohesion [41]. Furthermore, some work has found political differences in credulity, such that neoliberals may be more susceptible to bullshit [42].

SECTION II: How political identities shape the components of cognition

Over the past century, political psychologists have provided extensive evidence that partisan identities alter political judgment and behavior [14,15,43,44]. For instance, partisan identities influence reasoning on political cognition [45], including beliefs about political figures [42], political facts [47], support for policies [5], scientific issues [48], social issues [49], and beliefs in scientists' expertise [50]. Building on neuroeconomic models of decision-making [51] and self-regulation [52], we propose an *identity-based model of belief*. We suggest that different beliefs under consideration are assigned a value based on the benefits that are likely to result from each belief. Then, the values are compared in order to choose a belief. Finally, after incorporating the belief (and possibly expressing it publicly or acting upon it), the brain measures the desirability of the outcomes and updates the other processes to improve future cognition.

According to our model, the orbitofrontal cortex may be responsible for computing the value of competing goals (e.g., identity goals vs. accuracy goals) [51]. This region allows highly identified individuals to value the outcomes of in-group members and engage in cognition and action consistent with their identity goals [52] The OFC has rich functional connections with brain systems involved in reasoning (Dorsolateral Prefrontal Cortex [53]), memory (hippocampus [54]), **implicit evaluation** (amygdala [55]), and even perception (visual cortex [56]) (see **Figure 2**). Evidence from cognitive and social neuroscience suggests that these component processes are functionally dissociable in the human brain and engage in distinct computations while generating evaluations [55]. As such, understanding and decomposing these processes may be critical for designing interventions that will align beliefs with facts and allow the endorsement of a shared reality for everyone across the political spectrum.

Researchers have proposed two main perspectives to explain the effect of party affiliation on political reasoning [45,49]. According to one perspective, parties act as heuristics: People use the information about parties' endorsement of certain attitudes, beliefs, or policies as cues that guides their own position either directly through low

effort strategies ('if my party holds this position then it must be the right one"), or through deductions about the content of the policies with higher effort strategies ("if my party holds this position, then it must support this core value that I care about"). According to the alternative perspective, partisans engage in identity-protective reasoning (e.g., endorsing the party position; [57]). This perspective argues that people often care little about the specific policies under evaluation, because these rarely have important implications on people's concrete daily lives. However, their personal positions on these policies or issues have strong consequences for their social identity. Maintaining beliefs and judgments that are aligned with one's political identity therefore is a higher priority than achieving accuracy, and people with the highest reasoning abilities are better able to use efficient strategies to do that, as compared to people with lowest reasoning abilities.

In this vein, one study examined the relationship between math skills and political problem solving [58]. In the control condition, people who were strong at math were able to effectively solve an analytical problem. However, when political content was added to the same analytical problem—comparing crime data in cities that banned handguns against cities that did not—math skills no longer predicted how well people solved the problem. Instead, liberals were good at solving the problem when it proved that gun control reduced crime, and conservatives were good at solving the problem when it proved the opposite. In short, people with high numeracy skills were unable to reason analytically when it collided their political beliefs. This is consistent with research showing that people who score high on various indicators of information processing, such as political sophistication ([59]; although see [48]), science literacy [60], numeracy abilities [58], and cognitive reflection [61] are the most likely to express beliefs congruent with their party.

Partisan identity has been shown to affect memory. People are more likely to incorrectly remember falsehoods that support their partisan identity: Democrats were more likely than Republicans to incorrectly remember G.W. Bush on vacation during the Katrina hurricane, and Republicans were more likely than Democrats to falsely remember seeing Barack Obama shaking hands with the President of Iran [62]. Other studies have found that conservatives are more likely to remember negative information

about minority groups [63]. It is not yet clear, however, if these partisan biases are occurring at encoding, retrieval, or merely at expression.

In recent years, psychologists have observed that people may hold partisan biases outside of their conscious awareness. One paper examined the preference for political policies expressed by political in-group and out-group members using implicit attitude measures [64]. Consistent with previous work [5], people have an implicit preference for the policies proposed by their political in-group member (Democrat or Republican)—regardless of whether the policy content was in line with their ideology. Moreover, these implicit partisan preferences mediated the effect of political affiliation on explicit measures of policy preferences. It seems then that partisan identities go well beyond conscious and explicit judgments, and influence our implicit evaluations as well, suggesting that interventions targeting conscious or explicit reasoning may not fully address partisan bias.

Going one step further, there is evidence that political affiliations may even shape the way we merely *see* the world. In line with work demonstrating that social identities alter visual processing [65], a study showed that party affiliation shaped people's perceptions after watching the video of a political protest, i.e. an identity-relevant event [66]. When participants thought that the video depicted liberally-minded protesters (i.e. opposing military recruitment on campus), Republicans were more in favor of a police intervention than Democrats, whereas the opposite emerged when participants thought the video showed a conservative protest (i.e. opposing an abortion clinic). Faced with the same visual information, people seem to have seen different things and drawn different conclusions depending on their political affiliations. Other work has found that Republicans judge the skin tone of political leaders—like Barack Obama—as darker than Democrats, and these perceptions are associated with voting behavior [67]. Similarly, identification with the police seems to direct visual **attention** towards information that will support their social identity goals [68]. The effects of partisanship on perception are important, but controversial, and warrant additional research. If vision is affected by partisanship, it underlines the challenge of trying to create a shared reality across partisan divides.

SECTION III: How can we reduce biases related to partisanship?

Because citizens in a democracy are expected to make informed choices [4], either by electing representatives who reflect their beliefs or by voting directly in referenda, it is important to understand how to make them more receptive to facts and less receptive to fake news. Developing a shared reality is also critical for having fruitful policy debates. In this section, we propose strategies from our framework that are likely to diminish the influence of partisanship on belief. We focus on interventions that target both the antecedents of partisanship (why) and the cognitive processes that underlie the distortion of belief (how).

As we noted above, partisan identities serve important social goals for individuals. We assume that people value groups because they fulfill one or more goals (cf. Fig. 1) [see 28]. The weight (w) they place on each goal varies (per individual and as a function of context). For example, people vary in the degree to which they value epistemic rationality, and those who are also high in analytical thinking are more likely to reject inaccurate information [69]. Accordingly, when the weight of the accuracy goal outweighs the net weight of these other goals ($\sum$), people will be more likely to value (V) accurate beliefs, insofar as they have access to factual information. When the net weight of these goals outweighs the accuracy goal, people less likely to value accurate beliefs, and instead align their beliefs of party members and party dogma. As a result, two outcomes are possible: (1) When party beliefs are *factually correct*, these identity goals will generate accurate beliefs. (2) When party beliefs are *incorrect*, these identity goals will lead to misperceptions. As a consequence, differences in accuracy between two parties will increase polarization of beliefs. (In some cases, the group identity is focused on generating accurate beliefs, making the model additive rather than subtractive. For example, the accuracy goals of scientists, investigative journalists, and jurors are often aligned with their identity goals, increasing the probability that they will generate accurate beliefs.) These computations are instantiated in the vmPFC, with input from other brain regions (described in Section II).

$V = w_1 Accuracy - \sum(w_2 Belonging + w_3 Epistemic + w_4 Existential + w_5 Status + w_6 System + w_7 Moral \ldots w_n OtherGoals)$

According to this simplified framework, interventions that either fulfill social needs through nonpartisan means or motivate people to search for the truth, increasing the strength of accuracy goals, will reduce partisan bias. For instance, reducing worldview or self-esteem threats by affirming an individual can open their mind to otherwise threatening information [70,71]. To make this effective in a political context, it is necessary to determine which goals are producing social value for an individual and then fulfilling those needs. When people are hungry for belonging, then they are more likely to adopt party beliefs unless they can find alternative means to satiate that goal. As such, effective interventions should target social goals that are relevant to each individual to decrease identity motives. An alternative strategy is to enhance the accuracy goal, by incentivizing this goal or activating identities associated with this goal. For instance, holding people accountable [72] or paying them money for accurate responses [73] can reduce partisan bias. Likewise, priming alternative identities as scientists, jurors or editors might heighten the accuracy goal and reduce partisan bias. The success of these interventions suggests that many reported differences in factual beliefs may stem more from motivated reasoning (or simply motivated expression) rather than memory, perception or some unconscious process. These possibilities should be testable at the level of behavior as well as the underlying neural systems (i.e., motivated reasoning should be measurable in activation in the dlPFC and disrupted by factors, such as cognitive load).

Another factor to consider is the potential threat to identity if the belief is wrong. People generally find uncertainty aversive [74] and learning that you have a false belief can threaten your identity, and reveal a gap in your knowledge—which activates certainty needs. Thus, corrective information that either affirms that identity or fills in the knowledge gap may be helpful. For instance, one study looked at favorability judgments following the resignation of a politician and found that simply denying a false accusation did not change the favorability judgments. However, denying the accusation while also providing an alternative causal explanation for the resignation did [75]. This suggests an effective way of correcting people's beliefs about false news stories might be to enrich the corrective information in order to provide a broader account of the news.

Prompting an *accuracy goal* to reach a correct conclusion can elicit greater

cognitive effort towards that goal ([76]; [59,77]). In fact, partisan motivated reasoning is reduced when people are asked to form accurate opinions about a policy [78]. For instance, a recent study found that curiosity towards science, that is, "a disposition to seek out and consume science information in order to experience the intrinsic pleasure of awe and surprise" [57], reduces partisan polarization. People with high levels of science curiosity seem to be more willing to consume news that is not in line with their political identity (e.g., Democrats with greater curiosity may select more skeptical climate change stories, and Republicans with greater curiosity may select less skeptical climate change stories). Interacting with these counter-partisan sources reduces partisan beliefs. Similarly, helping people realize their own ignorance about policy details—known at the explanatory depth illusion—can reduce political polarization [79]. (In contrast, derogating your political opponents tends to increase polarization [80], possibly because it activates countervailing status and autonomy needs.) Future research should aim to measure the dynamic interaction of these social motives, visual attention, and neural activation as partisans explore news sources.

Likewise, professional training and guidelines for evaluating evidence fairly can reduce the effect of personal values. For instance, judges receive training to make legal determinations that are unrelated to their political values, unlike members of the general public [50]. We assume that the efficacy of these roles depends on the extent to which people identify with these groups and how they perceive the norms within this group (there is little doubt that judges can be politically biased, but the group as a whole is often motivated to follow legal guidelines that increase impartiality). Altogether, the evidence suggests that politically motivated cognition is indeed malleable and can be reduced with incentives and education that fosters curiosity, accuracy, and accountability.

Another factor to keep in mind while building interventions is the importance of the source of the message (see **Figure 3** for an example). The social influence literature has found that people resist influence from out-groups in order to protect their in-group identity [81,82], and they are less likely to trust political out-group members and are more likely to detect dodging from an out-group politician than an in-group politician [83]. There is evidence that creating a superordinate identity can reduce group bias in

implicit evaluations [84,85] and person perception [86,87]. Therefore, interventions should aim at appealing to a superordinate identity that includes all targets of the message—like Americans or human beings—or find a trusted source within the targets' political party to deliver the message [88,89]. Indeed, group criticism is received less defensively when they are made by an in-group member than when made by an outsider because the intentions of the critic are perceived as constructive [90].

A distinguishing feature of our model of the partisan brain is that interventions should target the relevant cognitive process where the partisan bias is entering (this stems from the assumption that these processes are functionally dissociable in the human brain [55].) For instance, if an individual is engaged in motivated reasoning, then presenting them with additional factual information is unlikely to be of much value—they will either find a way to dismiss the source or counter-argue against the evidence. In this case, one may need to affirm their identity motives or disrupt their capacity to reason. This same strategy is unlikely to be effective if the source of the bias is unconscious since these processes unfold automatically, without motivation or cognitive capacity [91]. To change implicit partisan evaluations, an intervention should aim to change the underlying associations [92] or activate an alternative, or superordinate, social identity [93]. Likewise, correcting distortions in memory will require deep and repeated engagement with the political content or effective cues for retrieval [94]. In theory, these interventions could also involve selective stimulation or impairment of brain regions (e.g., using transcranial magnetic stimulation and lesion patients). We argue that designing targeted *process-based intervention* will increase the impact of factual information on highly identified partisans.

Our model helps explain why correcting misinformation is often ineffective. For instance, corrective information is frequently unable to change political misperceptions or false facts ([95] see also [96–99]). Another implication of our model is that changing false beliefs about a political candidate may not change evaluations since these are subserved by different cognitive processes. For instance, correcting erroneous positive beliefs about Donald Trump was sufficient to shatter these beliefs. However, it did not change support for Donald Trump among his supporters. This underscores that the distortion of beliefs is just one element of political preference.

SECTION IV: Concluding Remarks

It is urgent to understand and address how partisanship shapes belief. Political polarization has increased dramatically in the US over the past few decades and is likely to keep increasing as people tune out ideologically-incongruent news [v], curate echo chambers on their social media accounts [vi], and move to ideologically like-minded parts of the world [100]. It is thus a modern paradox how our increased access to information has isolated us in ideological bubbles and occluded us from facts. As comedian Stephen Colbert has noted, *"It used to be, everyone was entitled to their own opinion, but not their own facts. But that's not the case anymore. Facts matter not at all. Perception is everything."* Although cognitive scientists still have a long way to go before we solve this problem (see Outstanding Questions), the current article provides a model for understanding why partisan identities often distort perceptions and beliefs, and offers some plausible solutions for opening our minds to a shared reality.

Resources

[i] http://www.pewinternet.org/2016/10/04/the-politics-of-climate/

[ii] https://qz.com/823183/republicans-and-democrats-cant-agree-on-the-facts/

[iii] https://www.washingtonpost.com/news/monkey-cage/wp/2017/01/25/we-asked-people-which-inauguration-crowd-was-bigger-heres-what-they-said/?utm_term=.d7a50e4b6466

[iv] http://www.electionstudies.org/

[v] http://www.people-press.org/2014/06/12/political-polarization-in-the-american-public/

[vi] http://graphics.wsj.com/blue-feed-red-feed/

[vii] http://www.pewinternet.org/2016/10/25/political-content-on-social-media/

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Trends Box (865/900 characters)

- Over 2 billion people use social media every day, and many use it to read and discuss politics. Social media also facilitates the spread of fake news and hyper-partisan content.
- Online discussions of politicized topics, including political events and issues (e.g., same sex marriage, climate change, gun control) resembles an echo chamber. That is, posts on these topics are shared primarily by people with similar ideological preferences.
- Political polarization is most likely when users employ moral-emotional language. This may reflect ideological differences between people on the left vs. right or partisanship.
- Online partisan criticism that derogates political opponents increases political polarization.
- Liberals are somewhat more likely to share cross-ideological content on social media (i.e., information posted by people with different ideological beliefs).

Outstanding Questions Box (1785/2000 characters)

- How many differences in belief between partisans are merely due to motivated expressions?
- How early in the information processing hierarchy do partisan affiliations exert an influence on belief? Is motivated reasoning a conscious process, as widely understood, or does partisan identity alter unconscious judgments as well?
- Do partisan motives penetrate basic perception or perceptual awareness of political content?
- Can methods from cognitive neuroscience help disambiguate motivated expression from biased reasoning, memory, or perception?
- How do our tribal instincts interact with the messages from political elites to shape partisan beliefs?
- What level of monetary costs are people willing to incur to maintain their partisan beliefs?
- Are there ideological asymmetries between conservatives and liberals in the dissemination and belief in misinformation? Some theories argue that conservatives are more susceptible to misinformation due to a higher need for closure and shared reality with in-group members, whereas others argue that conservatives and liberals are both equally susceptible to motivated cognition.
- What role do value violations play in the belief and dissemination of misinformation? Is all misinformation created equal, or are some people more susceptible to misinformation that conforms to their personal values?
- Do moral and political convictions impair persuasion? If so, what strategies are most effective for convincing partisans to believe in accurate information?
- Are these the same processes that give rise to conspiracy beliefs?
- How does modern technology increase the spread and belief in misinformation? Does social media increase exposure to alternative perspectives or lead people to retreat to an echo chamber of like-minded individuals?

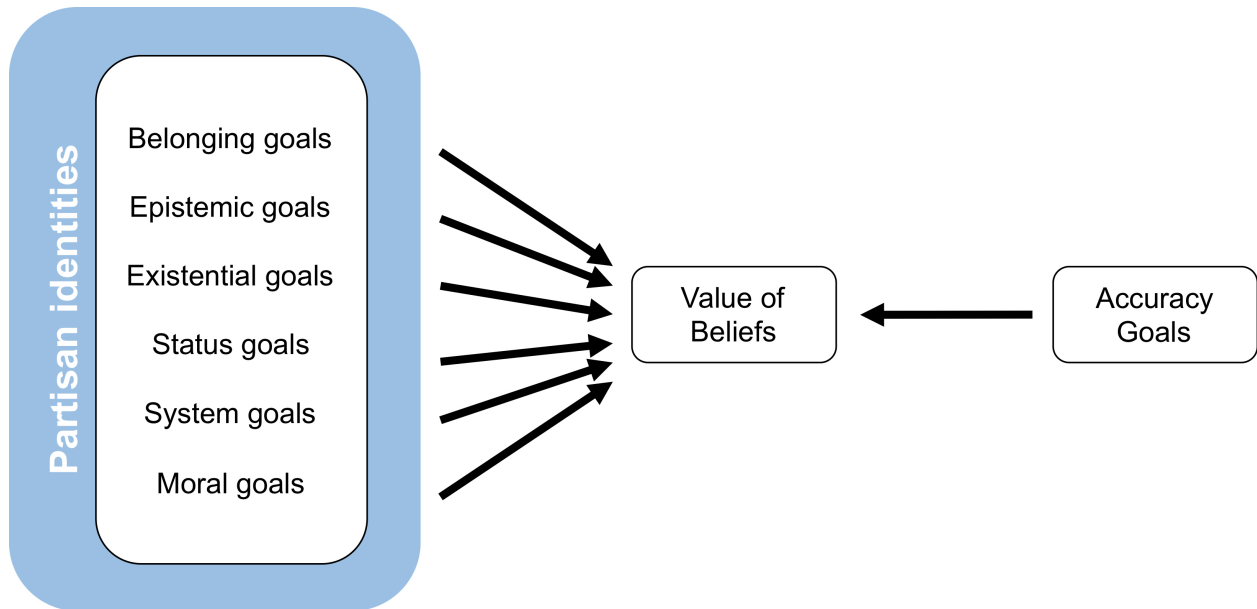**Figure Captions (375 words)**

Figure 1: Accuracy goals compete with identity goal to determine the value of beliefs. Accuracy goals can promote accurate beliefs about the social and physical world unless the net value of alternative goals outweighs the value of the accuracy goal. Partisan identities can subserve numerous goals (including, belonging, epistemic, existential, status, system justification and moral goals), which can distort belief when their net value outweighs accuracy goals.
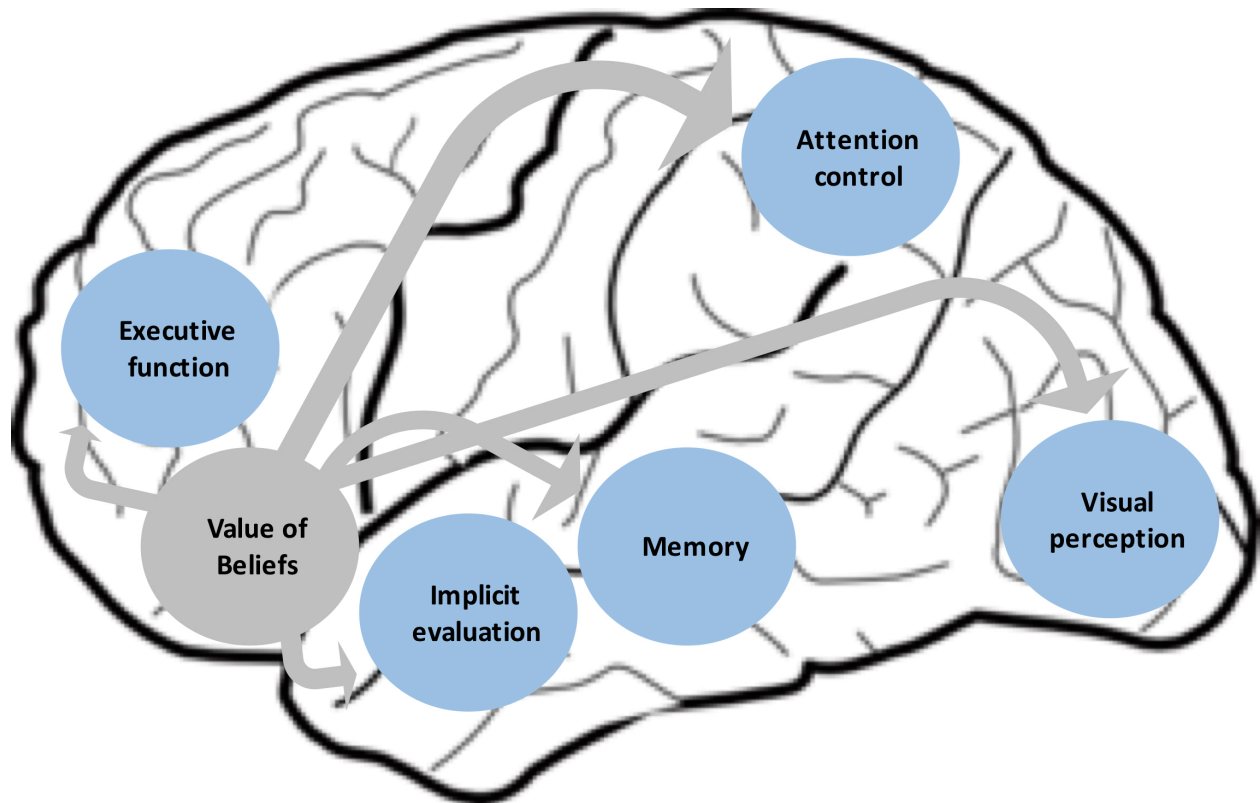
Figure 2: The value of beliefs shapes different cognitive processes. The identity-based model of belief assumes that partisan identities determine the value of different beliefs and can therefore distort belief at different states of cognitive processing, including executive function, attention control, memory, implicit evaluation (corresponding the amygdala/hippocampus, not visible from this perspective), and visual perception. This cartoon roughly illustrates that these cognitive processes have dissociable neural substrates and can be treated as functionally distinct. In practice, the functional relationships between different cognitive processes are often bidirectional.
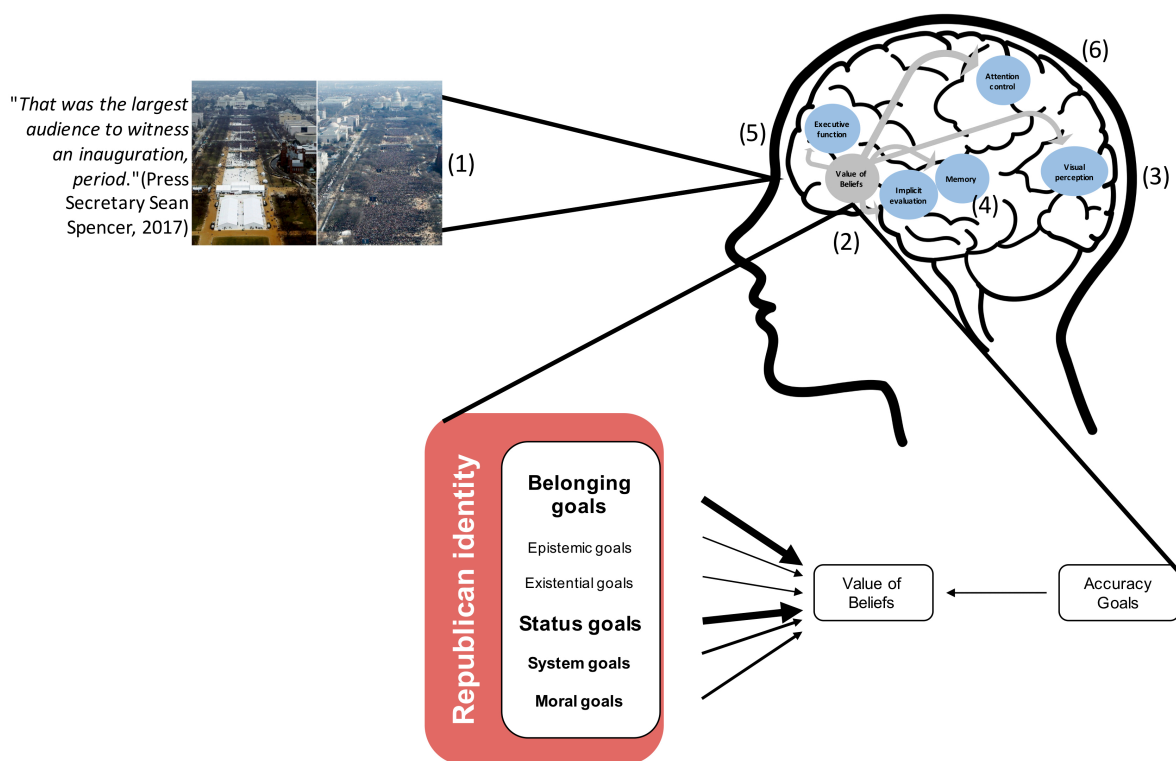
Figure 3. A case where partisan identity altered reported belief in crowd size. (1) A Republican party member sees pictures of the crowds at the Presidential inaugurations of Barack Obama (2009, right picture) and Donald Trump (2017, left picture). (2) The value of beliefs is computed in the vmPFC as a function of the identity goals that are active for that person. The statement by the Press Secretary—an elite member of their party—fulfills multiple goals (the width of the arrows represents the strength of the goals), including: (a) belonging goals, because it is an in-group member; (b) status goals, because he said the inauguration audience was larger than Presidents from the out-group; (c) system goals, because the inauguration is an important American political tradition; (d) moral goals, because loyalty is expected to the President. Other goals are less relevant. (3) The visual information is guided by attentional control in the parietal lobe and processed in the occipital lobe with guidance from the value of beliefs computed in the vmPFC. (4) If prompted to recall that information, episodic memory of the crowds is constructed via the hippocampus, with guidance from the values of beliefs computed in the vmPFC. (5) Finally, partisans can use the prefrontal cortex to engage in motivated reasoning to justify the size of the crowds or discredit the relevance of the photographic evidence. (6) Partisans might also report an inaccurate answer, despite accurate beliefs, to avoid conceding evidence that violates their identity goals.

Glossary (156/450 words)

Attention: A state of focused awareness on a subset of the available perceptual information.

Belonging goals: The pervasive drive to form and maintain lasting, positive interactions with other people.

Cognitive dissonance: The psychologically uncomfortable state induced by the co-presence of inconsistent attitudes, beliefs or behaviors.

Distinctiveness goals: The need for uniqueness and individuation.

Epistemic closure: The desire for predictability, decisiveness, preference for order and structure, and discomfort with ambiguity.

Executive Functions: A collection of brain processes responsible for planning, cognitive flexibility, abstract thinking, rule acquisition, initiating appropriate actions and inhibiting inappropriate actions, and selecting relevant sensory information.

Ideology: A system of beliefs and values that represent one's worldview.

Implicit evaluation: Evaluative information that is activated automatically, sometimes without intention or awareness.

Partisanship: Identification with a political party.

Social Identity Theory: An influential theory claiming that a person's sense of self is based largely on their group membership(s).

System justification: The tendency of people to tolerate, legitimize and perpetuate the system they live in, including unfair and unequal ones, by endorsing the status quo and opposing attempts to change.