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REPLY

All About Cognitive Consistency: A Reply to Commentaries

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A unique advantage of *Psychological Inquiry*'s format is that it encourages a free exchange of ideas allowing authors to "drill down" on points of disagreement and clarify possible misunderstandings. This is particularly helpful where an article asks its readers, as we do here, to revisit fundamental assumptions and reconsider widely accepted views. We are delighted at the opportunity to address the commentaries on our target article and explore the issues that they raise.

Responses to our article differed appreciably in both attitude and substance. We were thrilled by commentators' ideas that independently converged on our notions, were intrigued by the assimilation of our insights to other concerns, and welcomed the chance to respond to our critics. The reply that follows is organized by the major issues that the commentators raised and that illuminate fundamental facets of the cognitive consistency conundrum.

The Place of Motivation in Models of Consistency

The main objective of our target article was to highlight the distinction between motivational and the epistemic aspects of cognitive consistency phenomena. The two were confounded in cognitive consistency research, committed as it was to the "need for consistency" premise whereby inconsistency among cognitions, as such, creates psychological discomfort. Instead, we argued that consistency or inconsistency among cognitions fulfill an *epistemic* function of respectively augmenting or undermining a sense of secure knowledge. Whether the result is pleasant or unpleasant depends entirely on the *motivational relevance* to the individual of the knowledge at stake.

Typically, social psychological models of cognitive consistency highlighted the case wherein an inconsistency with a desired state of affairs (i.e., bad news) fostered negative affect (variously referred to as dissonance, stress, uneasiness, or aversive tension); this, in turn, was thought to instigate a motivation or goal to remove it through cognitive adjustments (attitude change), hence restoring a more positive outlook.

The motivational/affective element was a centerpiece of major cognitive models, the psychological "dynamo" assumed to set in motion attitude change. Surprisingly, this widely accepted notion was contested by Simon and Read (this issue). Somewhat inconsistently, they claimed that cognitive dissonance theory (CDT) "is unique among [cognitive consistency theories] CCT in its reliance on arousal of negative affect as the trigger of the cognitive process" and in the same sentence they stated their objection "to the characterization of CDT as a theory of affect arousal" (p. 98).

On even a cursory examination, however, both their assertions turn out to be incorrect. Simon and Read's objection to the role of affect arousal in CDT is at odds with views of major dissonance theorists. Festinger (1957, p. 2), for instance, stated, "In the presence of an inconsistency, there is psychological discomfort" giving "rise to pressures to reduce or eliminate the dissonance" (p. 18). Carlsmith and Aronson (1963) predicted that "the stronger the expectancy, the greater the negative affect following its disconfirmation" (p. 156). Harmon-Jones (2000) viewed the result of his studies as providing a "demonstration of Festinger's (1957) hypothesis that cognitive discrepancy is psychologically uncomfortable" (p. 1495). Elliot and Devine (1994) stated that "dissonance is experienced as psychological discomfort … alleviated on implementation of a dissonance-reduction strategy [resulting in] attitude change" (p. 382). Higgins, Rhodewalt, and Zanna (1979) obtained empirical support for the proposition that it is "unpleasantness and not arousal per se is the motivating factor in dissonance reduction" (p. 16). Other authors, too numerous to count, expressed similar views.

Dissonance theory is also not "unique among (cognitive consistency theories) in its reliance on arousal of negative affect as the trigger of the cognitive process," as Simon and Read propose. The other major cognitive consistency theory, *balance theory*, exhibits a similar emphasis. In this vein, Heider (1958) asserted that "imbalance occurs when disliking and similarity are both present, with the result that there is *tension* [emphasis added]" (p. 188). He further elaborated that "balance tendency … may produce a *wish* as well as action to eliminate the inequality, or, where the situation cannot be corrected, *uneasiness and tension* [emphasis added]" (Heider, 1958, p. 287). Meaning maintenance theorists, too, highlighted the affective response to negative

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inconsistency. As Proulx, Inzlicht, and Harmon-Jones (2012) put it, "Inconsistency is … associated with the … sympathetic nervous system arousal, as indexed by skin conductance, heart-rate … pupil dilation, and negative affect" (p. 289). They theorized that "the compensation efforts that pervade the social psychological literature can be understood as palliative attempts to reduce the state of aversive affect that is aroused by expectancy violations" (Proulx & Inzlicht, 2012, p. 324).

Proulx et al. (2012) summarized in their Table 1 diverse CCT theories according to the negative affect they mention: cognitive dissonance theory (Brehm, 2007), Reactive Approach Motivation (McGregor, Nash, Mann, & Phills, 2010), TMT (Burke, Martens, & Faucher, 2010), compensatory control theory (Kay, Gaucher, Napier, Callan, & Laurin, 2008), uncertainty management model (Van den Bos, 2001), system justification theory (Jost, Kay, & Thorisdottir, 2009), meaning making model (Park, 2010), Piaget's theory of cognitive development (Muller, Carpendale, & Smith, 2009), model of ambivalence-induced discomfort (Van Harreveld, Van der Pligt, & de Liver, 2009), and meaning maintenance model (Proulx & Heine, 2010). The case for negative affect in theories of cognitive consistency seems clear indeed.

Despite general consensus on this matter, Simon and Read (this issue, p. 98) insist that cognitive consistency theories do not, in fact, assume a negative affective arousal, but "rely instead on cognitive and structural forces" such as the preference for "good form," Gestalt psychologists' concept of Prägnanz (p. 16). But note that a *preference* is a quintessentially motivational construct; it refers to relative desire for one state of affairs over another. A flip side of motivation is affect: positive affect where one's preference materializes, and negative affect where it does not. Of course, not all inconsistency-induced affect is of equal intensity. Zajonc (1968, p. 347) as well as Freedman (1968, p. 502), for instance, viewed balance strivings as of rather "weak intensity resembling preferences rather than driving forces" (Kruglanski & Klar, 1987, p. 230). But the intensity of affect reflects the magnitude of the underlying motivation, which can vary across cases. The "cognitive and structural forces" that Simon and Read (this issue) invoke are *motivational*; their attainment fosters satisfaction (i.e., positive affect) and their nonattainment fosters dissatisfaction (i.e., negative affect).

In summary, negative affect allegedly produced by a cognitive inconsistency indeed constitutes a key element of major cognitive consistency theories. It is no mere straw man, sideshow, or an "afterthought" as Simon and Read (this issue, p. 99) would have it.

On the Motivational Underpinnings of Inference Making

Simon and Read (this issue) fault us for failing to address "the core contribution of CDT—not to mention CCT—lies in its formulation of cognitive *responses* to inconsistency" (p. 98) and for ignoring "this crucial aspect of the theory as they focus solely on the affective arousal that *purportedly* [emphasis added] triggers those responses." Indeed, consistency theorists agree that it is the affective response that drives cognitive adjustments so the conditions under which the affective response occurs are of crucial interest. There is no dissonance reduction, after all, without dissonance.

The Motivation-Cognition Loop

Our novel claim was that the affective response is not to inconsistency *as such* but rather to increased subjective likelihood, that is, expectancy, conveyed by inconsistent or consistent[1] information, of an *undesired state of affairs*. The cognitive *response* to negative affect (e.g., elicited by such information) is a special case of a broader class of processes known as *motivated cognition* and has been addressed extensively elsewhere (Belanger, Kruglanski, Chen, & Orehek, 2014; Bélanger, Kruglanski, Chen, Orehek, & Johnson, 2015; Dunning, 1999; Kunda, 1990). In that sense, the relation between information, motivation, and cognition can be reciprocal and looplike: The information given (inconsistency with a desired state) creates a motivation to attain what is desired, and that motivation in turn triggers a cognitive activity in the desired direction.

In point of fact, the coherence maximizing process described by Simon and Read (this issue) refers precisely to a course of motivated cognition where the desire to reach a firm decision (need for a *nonspecific closure* in our terms) promotes coherence increasing activities. As Simon, Pham, Le, and Holyoak (2001) put it, "When faced with tasks of high ambiguity, conflict, and complexity—conditions that might otherwise be experienced as insurmountable—the increase of coherence in support for one of the decision alternatives enables and facilitates the making of confident decisions" (p. 1257).

Other research in the coherence framework examined what we would call the needs for *specific closure* (Kruglanski, 1989, 2004), that is, the desire to reach a specific conclusion. This process was tapped in studies that manipulated the degree to which participants were invested in a particular conclusion and measured the degree of subsequent motivated biases. For instance, participants who liked a protagonist more wanted to reach a more positive opinion about her (Simon, Stenstrom, & Read, 2015), and those who were initially inclined toward a more attractive option adjusted their other opinions accordingly (Simon, Krawczyk, & Holyoak, 2004; Simon & Spiller, 2016). As Simon and Read (this issue) write, "Experimental interventions on the attractiveness of one variable were found to not only influence the outcome, but also trigger corresponding coherence shifts in all of the other variables" (p. 104), which directly illustrates the important role of motivational factors for coherence effects.

[1]Simon and Read (this issue) mistakenly attribute to us the notion "that inconsistency must be the unique trigger of negative arousal" (p. 97). We are suggesting that an increased expectancy of an unwanted state of affairs constitutes such a universal trigger. Affect is a response to a motivational state of gratification or frustration of one's desires (Frijda, 2004; Higgins, 1987).

The Motivational Underpinnings of Coherence Strivings

The preceding studies demonstrate that the *magnitude* of motivation matters: The higher the magnitude of the motivation for specific closure (pleasing conclusion), the more biased the directional coherence process.

But the *type* of motivation matters as well. In coherence work so far, an outcome of information processing has been always an *increased* level of coherence in the system. This assumes that individuals invariably seek closure (of the nonspecific or specific kinds). This isn't necessarily the case. Occasionally, people may desire not to know, or have a strong *need to avoid closure* (Gigerenzer & Garcia-Retamero, 2017; Kruglanski, 1989, 2004). Under those conditions, they may process information in a way that would maximize *uncertainty* or *incoherence*. In short, close attention to the type and magnitude of motivation is essential, in our view, to a general understanding of the process of motivated cognition that the coherence work seeks to characterize. More generally, the work on coherence would benefit, in our view, from incorporating the present distinction between the epistemic and the motivational elements of the cognitive process. The former affects the certainty (i.e., expectancy) of one's beliefs in a state of affairs, the latter whether, and to what extent, that degree of certainty is desired or undesired and the corresponding affect this would elicit. Coherence or incoherence maximizing processes are *means* to an end, handmaidens of the epistemic motivations they seek to serve.

On the Shoulders of Giants

Simon and Read (this issue) inconsistently argue that it is unclear what novelty (our model) offers and, however, that we frame CCT in a manner that would *surprise* [emphasis added] most CC theorists. In point of fact, "Our analysis builds on prior theory, criticism, and data within the cognitive consistency domain and casts a novel light on the cognition-affect nexus" (Kruglanski et al., this issue, p. 56). To be sure, prior authors occasionally alluded to a distinction between cognitive consistency and motivational value. Festinger himself (1957, p. 262) distinguished between the "weighted proportion" of dissonant to consonant cognitions, representing the consistency aspect, and "importance" of the cognitions, related to the motivational aspect. Greenwald and Ronis (1978) stated that dissonance "theory seems now to be focused on cognitive changes occurring in the service of *ego defense*, or *self-esteem maintenance*, rather than in the interest of preserving psychological *consistency* [all emphasis added]" (p. 55). This position was uncompromisingly articulated by Cooper and Fazio (1984), who stated that "dissonance has precious little to do with the inconsistency among cognitions per se, but rather with the production of a consequence that is unwanted" (p. 234).

This last statement strikingly anticipates the present analysis. Yet whereas it could be interpreted as denying the role of inconsistency/consistency in dissonance altogether, we presently portray the epistemic function of inconsistency/consistency in updating an expectancy concerning a given (desirable or undesirable) state of affairs. Jointly, that expectancy plus the value (i.e., desirability of the state of affairs to which the expectancy pertains) drive the affective response to information.

Furthermore, whereas the unwanted consequence highlighted by Cooper and Fazio (1984) concerned the personal responsibility for negative consequences, and whereas other investigators identified various motivations having to do with the self (i.e., ego defense, self-esteem maintenance, self verification, or action relevance) as critical to the creation of dissonance, we presently assume that the desirable/undesirable states giving rise to aversive affect could stem from *any motivation* whatsoever.

Now, we agree with Bargh (this issue) that social motives are exceedingly important in this regard and that they drive much of our behavior. In fact, much of our recent work on radicalization and terrorism highlights the *quest for significance*, a social motive to matter and be accepted, as underlying these destructive patterns of action (Jasko, LaFree, & Kruglanski, 2017; Kruglanski et al., 2013; Kruglanski et al., 2014; Kruglanski, Jasko, Chernikova, Dugas, & Webber, 2017; Webber, Klein, Kruglanski, Brizi, & Merari, 2015; Webber et al., 2018). But other motives can be important as well. As we expressly put it in the target article,

> needs for specific closure may refer to any desirable or undesirable outcome regardless of its motivational origin (e.g., stemming from hunger, thirst, the need for control, or any other need). Any motive when activated could make some outcomes desirable. For instance, hunger could make desirable the belief that food is forthcoming, and the safety motive that one's alarm system is working. (p. 47)

In this sense, C. Harmon-Jones and E. Harmon-Jones (this issue) preach to the choir when they state, "We do not believe that the self-concept is a necessary ingredient of dissonance processes" (p. 77) and misconstrue our position as our denying it. All to the contrary, we stress it explicitly as a major tenet of our theory.

Thinking Is for Knowing

C. Harmon-Jones and E. Harmon-Jones (this issue) suggested that cognitive inconsistency is bothersome because it interferes with action, and that "'importance' of cognitions is proposed to depend on the degree to which the cognition has action implications" (p. 75). The foregoing statement implies that different set of cognitions vary in the extent that they have action implications. Yet earlier (p. 75) we learned that "dissonance also results from exposure to information inconsistent with a pre-existing perception or cognition" and that "such dissonance-evoking information would also have the potential to interfere with effective action" (p. 75). The last statement implies that *any* inconsistent cognitions have action implications, or the potential for action implications; this seems problematic in light of the authors' notion that *some* inconsistent cognitions have greater action implications than others, begging the question of how the extent of action implications is to be gauged.

From the present perspective, cognitive inconsistency undermines confident knowledge which *in some instances* is desired as a launching pad for action. However, undermining of desired knowledge (or solidifying of undesired knowledge) may be bothersome for intrinsic reasons as well, unrelated to any action implications. For instance, one may find out that an admired ancestor wasn't really worthy of one's admiration (e.g., she or he was a criminal, a pervert, or a bigot), or that the street directions one gave to a (long gone) passerby were mistaken. Neither of these have obvious action implications, yet they may make one feel bad.

Furthermore, some actions might appear of relatively little motivational consequence to an individual (e.g., purchasing a toothbrush, doing the dishes). Cognitive inconsistency that forestalls the pursuit of those actions may cause relatively little distress less, in fact, than inconsistency undermining a more desirable knowledge that *lacks* immediate action implications. Other actions (e.g., buying a house, choosing a college) may have considerable motivational consequence and cognitive inconsistency concerning those may cause appreciable distress.

Thus, it is not whether the inconsistency (or consistency) is action relevant but rather how desirable or undesirable the resulting knowledge or lack of knowledge. Any attempt to define what contents of cognitive inconsistency are "important" and likely to cause distress (e.g., inconsistency about the self, or about possible actions) unnecessarily narrows the universe of undesirable epistemic states capable of causing distress. The most that may be reasonably said is that those undesirable states can derive from *any and all* motivations that matter to individuals and depend for their magnitude on the degree of these states' desirability or undesirability.

The Consistency/Expectancy Nexus

C. Harmon-Jones and E. Harmon-Jones (this issue) contest our notion that "cognitive consistencies or inconsistencies were typically assumed to pertain either to the confirmation or the disconfirmation of expectancies" (Kruglanski et al., this issue, p. 47). Harmon-Jones and Harmon-Jones pronounce this to be "incorrect … [in that] manipulations of cognitive dissonance typically involved a *behavioral commitment*, rather than a violation of expectancies" (p. 76). This statement reveals, again, the ubiquitous confounding of the motivational and the epistemic aspects of dissonance studies (see the target article on this point). The "behavioral commitment" (e.g., to a selected alternative in Brehm's, 1956, choice paradigm) induces the *motivation* to defend one's irrevocable choice so as to feel good about it. Epistemically, the subjective likelihood, or *expectancy*, that the choice was the right one is an entirely different matter altogether. Indeed, such expectancy is lowered by cognitions inconsistent with the "good choice" conclusion: the negative aspects of the chosen alternative and the positive aspects of the rejected alternative. To avoid a lowered expectancy of a desired state of affairs (the good choice conclusion) cognitive work is carried out, resulting in the spreading apart in attractiveness of the chosen and rejected alternatives. The juxtaposition of "behavioral commitment" and "changed expectancy" (subjective likelihood) is thus inappropriate and constitutes a "category mistake" (Ryle, 1949) resulting from the failure to appreciate the difference between the epistemic and motivational counterparts of the situation at hand.

A Claim Too Far?

Proulx (this issue) claims that the affective and behavioral responses to inconsistency are two separate processes and that the affective reaction is unrelated to, and does not cause, the behavioral outcome. We find this suggestion surprising because it implies that cognitive change in particular, and human behavior in general, is unmotivated, or at least is not motivated by affect that stems from discrepancies between actual and desired states (e.g., Higgins, 1987). This position runs counter not only to key assumptions of the various cognitive consistency theories but also to received assumptions about behavior writ large (e.g., Hilgard & Bower, 1966; Vaughan & Hogg, 2010). Now, there is nothing wrong with surprisingness as such. In fact, the greatest scientific discoveries were surprising by definition. Yet in this case, Proulx's claim seems at odds with the available data.

Admittedly, there is little direct evidence that inconsistency-driven affect causes the behavioral outcome. Nonetheless, Martinie, Olive, Milland, Joule, and Capa (2013) measured participants' electromyographic activity—zygomaticus major (positive affect) and corrugator supercilii (negative affect). Participants in the dissonance condition had greater negative affect than those in the control. More important, for participants in the dissonance condition, intensity of negative affect predicted attitude change.

There has been more indirect evidence for these relations. For instance, Comer and Rhodewalt (1979) placed electrodes on people's faces to stimulate muscles associated with positive or negative affect. Participants then completed an induced-compliance dissonance paradigm. When participants could interpret postdissonance arousal as positive (i.e., when muscles associated with positivity were stimulated), they no longer attempted dissonance reduction. There is also the classic Zanna and Cooper (1974) study, in which enabling participants to misattribute their dissonance-induced arousal to a drug-eliminated attitude change. Meaning maintenance theorists adopted a similar procedure using one of their meaning threats (i.e., unexpected changing of an experimenter; Proulx & Heine, 2008). Similarly, Randles, Inzlicht, Proulx, Tullett, and Heine (2015) found that participants who consumed Tylenol before exposure to a meaning threat did not engage in a typical behavioral response.

Proulx (this issue) interpreted these and similar findings as reflecting "implicit arousal" rather than negative affect (but see Higgins et al., 1979). At other places, however, he labeled the affective state at issue as "aversive arousal," "disanxiousuncertilibrium," a "funny feeling," or "anxiety" and suggested that it mediates the inconsistency—anxiety—

behavior sequence (Proulx & Inzlicht, 2012). Demarcating this feeling (however labeled) from negative affect seems to constitute an exercise in hair splitting. For instance, Proulx (this issue) locates its seat in dorsal anterior cingulate cortex (dACC) activity, yet Spunt, Lieberman, Cohen, and Eisenberger (2012) found that self-reported negative affect (anxiety and unpleasantness) experienced in response to a stop-signal task explained a significant amount of the variability in the dACC response. And in a paper that Proulx published this past year (Sleeger, Proulx, & Van Beest, 2017), he argued himself that dACC activity is evidence of negative affect (social pain). The Harmon-Jones commentary also cites some of their own research (Levy, Harmon-Jones, & Harmon-Jones, 2018), where reading incongruent sentences increased negative affect. The outcome measures included corrugator muscle activity, rating of nonsense words as more negative, and higher self-reported negative affect on a bipolar (negative to positive) scale.

Thus, inconsistency with a desired state of knowing or understanding something does seem to evoke negative affect. The fact that Proulx's early studies failed to find an affective response to inconsistency (Proulx & Heine, 2008, 2009; Randles, Proulx & Heine, 2011) is generally viewed these days as due to their use of a poor measure of affect, namely, the Positive and Negative Affect Schedule (e.g., Jonas et al., 2014). C. Harmon-Jones and E. Harmon-Jones (this issue) cite evidence where dissonance manipulations have increased skin conductance as an indicator of negative affect (Elkin & Leippe, 1996; Harmon-Jones et al., 1997), and state that measures that typically fail to find increased affect to inconsistencies (with desired states, we would add) are likely too "blunt" and that "null effects should not be taken as evidence that negative affect did not occur" (p. 75). Finally, an article on which Proulx is a coauthor (Randles et al., 2015, p. 707) acknowledges that "meaning violations are mediated by changes in some form of anxiety," that is, negative affect, and encourage "continued work to directly assess measures that consistently identify changes following unexpected events" (p. 707).

Value Matters

Proulx claims that *value*, that is, the desirability/undesirability of the knowledge state impacted by inconsistent or consistent cognitions, makes no difference to the behavioral outcomes; this claim too is inconsistent with evidence, namely, cross-cultural findings, and research on individual differences. As noted in the target article, cross-cultural research suggests that members of different cultures attach different value to different types of knowledge. As a consequence, they react with correspondingly different behavior (i.e., attitude change) to invalidation of such knowledge by inconsistent information (cf. Hoshino-Browne et al., 2005; Kitayama, Snibbe, Markus, & Suzuki, 2004).

Individual differences in value that people attach to different types of knowledge should also moderate differences in their reactions to cognitive inconsistencies impacting the certainty of such knowledge (i.e., differences in meaning compensation behaviors). In this vein, Proulx and Heine (2010) suggested that differences in the need for cognitive closure should moderate reactions to inconsistency (as indeed was found in research by Di Santo, Chernikova, Kruglanski, & Pierro, 2018, and Webber, Zhang, Schimel, & Blatter, 2015). Sleegers and Proulx (2015) similarly argued that that self-esteem, neuroticism, and commitment to goals or values should moderate behavioral compensation in response to meaning violations (i.e., cognitive inconsistencies). In summary, contrary to Proulx's (this issue) claims, extant evidence is largely supportive of the present theory, whereby inconsistency that undermines valued knowledge states induces negative affect that may drive behavioral and attitudinal effects.

Appreciation

Although it was important to address our critics and correct their misconceptions, we were particularly thrilled by commentators who "got it," who evidenced a deep comprehension of our position and appreciated its contribution in the historical context of work on cognitive consistency phenomena. In this vein, Sanders and King (this issue) note compellingly that "any novel event is, by definition, unexpected and therefore potentially 'threatening' to cognitive consistency" yet "learning *requires* novelty and is critical to survival (hence is) adaptive in the literal sense" (p. 95). For instance, "any species that was bothered by unexpected food is likely extinct" (p. 95). In this vein, too, Eskreis-Winkler and Fishbach (this issue) identified through their work the conditions in which individuals are actively seeking inconsistencies, suggesting that sometimes inconsistency rather than consistency is the desideratum. Sanders and King (this issue) agree with that position in noting that "inconsistency is not troubling, at least not in the way one would expect it to be if it functions as a general human need" (p. 96).

We were similarly gratified by Friston's (this issue) commentary and were truly excited on learning about the "consilience between (our) treatment and complementary formulations in theoretical neurobiology" (p. 67), about notions of active inference and about our convergence in the "Bayesian or variational treatment of perception and self-organised behavior" (p. 67). It was indeed rewarding to know that "particular flavors of this formulation have dominated cognitive neuroscience and aspects of philosophy for the past decade" and "are now the predominant paradigms in cognitive neuroscience" (p. 67). Friston (this issue) explores from his own conceptual perspective notions of trivial and nontrivial inconsistencies epistemic and motivational facets of active inference and the affective response that inconsistencies may elicit depending on their motivational (or goal) relevance to individuals. We look forward to further exploration of our convergences and to future discoveries that promise to transcend levels of behavioral phenomena (i.e., neural/hormonal, perceptual, cognitive, and social).

Rossignac-Milon and Higgins (this issue) accept our suggestion that inconsistency does not lead to affective or behavioral responses *unless* it is experienced as motivationally relevant, and they agree that serious reconsideration of consistency theory is needed. An exciting aspect of their commentary concerns the relation of intrapersonal consistency to interpersonal one. Specifically, they ask what inconsistent cognitions would have epistemic impact to begin with, and they answer that these are cognitions whose truth value is high, which in turn are cognitions forming part and parcel of the shared reality of one's group. In the Bayesian world, information for which the truth value is low would have little impact on the posterior expectancy and, indeed, the striving for a shared reality with respected others is what characterizes us as humans. Thus, Rossignac-Milon and Higgins make an important point concerning an essential aspect of human knowledge, namely, its grounding in common worldview with important others, that is, shared reality. Recent work on radicalization and violent extremism, for instance, reveal how critical in these contexts is the network of like-minded radicals that validates the deviant ideology they all share (Kruglanski et al., 2013; Kruglanski et al., 2014; Kruglanski et al., 2017; Sageman, 2004, 2008). Even the so-called lone wolves turn out to be mostly members of wolf packs (Weimann, 2012a, 2012b, 2013), and innovative scientists (like Galileo) whose notions buck the received trends are typically motivated to convince others of the veracity of their ideas and to have them incorporated into the fabric of shared reality and the prevailing Zeitgeist.

Epilogue: Criticism and the Growth of Knowledge

Philosophers of science (e.g., Kuhn, 1962; Lakatos & Musgrave, 1970; Popper, 1949, 1963; Weimer, 1979) highlight the role of criticism in advancing scientific knowledge. Scientific models are not pieces in a museum where once displayed they hold their place forever. Science is a dynamic enterprise, where ideas survive on their merits, which are perennially subject to reassessment.

The cognitive consistency models have made an immense historical contribution, we couldn't agree more. They spurred the cognitive turn in social psychology (promoting the advent of attribution theory and the social cognition movement), they instigated the evolution of motivated cognition as a field of inquiry (e.g., Dunning, 1999; Kunda, 1990; Kruglanski, 1989, 2004), and they greatly impacted the study of attitude formation and change among others. But as the target article recounts it, they had their discontents as well. From the very start and down the years (e.g., Cooper & Fazio, 1984; Deutsch & Krauss, 1965; Greenwald & Ronis, 1978; Jones & Gerard, 1967), something appeared amiss in the Kingdom of Consistency. Following up on this rich tradition and its perplexities, we came up with a solution to the various "ills" that have plagued this historical paradigm. Our epistemic-motivational distinction and the related expectancy-value framing offers, we hope, "a path that incorporates a more nuanced approach to the question of when, why, and for whom inconsistent cognitions may be troubling" (Sanders & King, this issue, p. 96) and with what consequences.

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