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On knowing more than we can tell: Intuitive processes and the experience of meaning

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Conceptually defining meaning and meaning in life has proven to be difficult. We suggest that this difficulty reveals an important fact about meaning. Meaning is, at least in part, the result of processes that are not available to awareness except as vague, intuitive gut feelings. We present evidence that common features of meaning are the product of unconscious processes, and we argue that these processes can give rise to intuitive impressions suggesting the presence of meaning. We review evidence from divergent areas supporting the assertion that meaning is, at least in part, an intuitive feeling. The study of meaning in life is reliant on self-reports that tap into participants' intuitive notions of meaning. We argue that this approach is appropriate because the experience of meaning includes an emergent feeling that arises from unconscious processes. Implications of this perspective for the understanding of meaning and its measurement are discussed.

Keywords: meaning; sense of coherence

A central dilemma in the scientific study of the human experience of meaning is the nagging definitional ambiguity of the construct. Meaning refuses to surrender to a satisfying, consensually accepted conceptual definition. Although any given definition of meaning may represent a pretty good approximation of the construct, there is a lingering feeling that something is missing, that meaning means something more than even these pretty good approximations can capture. Some might question how sound science can progress in such a situation. Surely, the first thing we need to study anything is a workable definition of that variable. The only remedy, then, would seem to be to continue banging our heads against this problematic construct that defies conceptual (though not operational) definition. We offer an alternative possibility that this definitional dilemma, in fact, reveals a central feature of meaning. What if there will always be something missing from definitions of meaning because when it comes to meaning, we know more than we can tell? Perhaps, the nature of meaning evades definition *because it should*, because some aspects of meaning cannot be put into words, they are, literally, ineffable.

In this article, we probe the possibility that, indeed, some aspects of meaning are, literally, ineffable. We propose that these inarticulate elements of the experience of meaning reflect unconscious processes. We argue that at least some presumed efforts toward meaning (e.g. detecting connections and coherence) are performed by unconscious processing systems responsible for basic capacities such as perception and learning. We suggest that the experience of meaning is, at least in part, an intuitive feeling state or 'feeling of rightness' (James, 1890/1950) that emerges in awareness as the result of these processes. In addition to arguing for the role of intuitive processes in the experience of meaning, we hope to illustrate how attention to these ineffable qualities of meaning can enhance the science of meaning, expanding the methodological tools available to scholars who have taken up this perplexing and fascinating aspect of human life.

To begin this exploration, we first revisit some of the pretty good approximations of meaning that scholars have proposed and highlight three shared features of these that are particularly relevant to our approach. Although complete consensus has not been reached in terms of precisely defining the human experience of meaning, examining some of the proposed definitions reveals some fertile common ground.

Common features in definitions of meaning

There are certainly some interesting common features across definitions of meaning. We focus on three of these: First, the notion that that meaning implicates connections, associations, or relationships; second, the relevance of a sense of coherence or comprehensibility to the experience of meaning; and finally, that meaning is a subjective experience. These three features of meaning are especially relevant to the possibility that some aspects of meaning emerge from processes that are not available to awareness. To foreshadow, we

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will highlight the fact that the first two meaning-relevant processes represent capacities of unconscious processing systems and that the last implicates intuitive experience in the phenomenological experience of meaning.

Connections

Many definitions of meaning refer explicitly to meaning as connection. Baumeister (1991, p. 15) defined meaning as 'shared mental representations of possible relationships … Thus, meaning *connects* things.' Leontiev (2005, p. 48) noted that 'Meaning appears before us as connections between the objective life-relations of the subject, the objective contents of his consciousness, and the object and structure of his activity.' Within the meaning maintenance model (MMM), Heine, Proulx, and Vohs (2006, p. 90) defined meaning as 'the expected relationships or associations that human beings construct and impose on their worlds.'

The theme of connection is reflected, as well, in definitions of the broader construct of meaning in life. As eloquently expressed by Steger (2012, p. 165), 'Meaning is the web of connections, understandings, and interpretations that help us comprehend our experience and formulate plans directing our energies to the achievement of our desired future. Meaning provides us with the sense that our lives matter, that they make sense, and that they are more than the sum of our seconds, days, and years.'

Thus, in some sense, meaning is centrally about the experience of reliable connections. Where do these connections come from? Here, we note a difference in the definitions proposed by Leontiev (2005), on the one hand, and Heine, Proulx, and Vohs (2006), on the other. For Leontiev, meaning 'appears before us' while for the MMM scholars meaning is something that 'human beings construct and impose.' This difference, we believe, highlights an essential issue in the science of meaning and helps to explain why researchers have often missed the intuitive aspects of this experience. Surely, meaning *can* 'appear before us' and it *can* be 'constructed or imposed.' But from our perspective, the former has been too long neglected by psychologists in favor of the latter.

A great deal of research on meaning has focused on the active construction and search for meaning in life experiences (Heintzelman & King, 2013; King & Hicks, 2009a; Park, 2010). Such work is undoubtedly important, but it cannot fully illuminate the human experience of meaning. A comprehensive understanding of meaning requires that we consider not only those times in life when meaning is experienced as absent but also those times when meaning is present (King, in press). The notion that human beings are 'natural meaning makers' is practically a truism in psychology. In some ways, this label is apt. Humans do create meaning in that we use language and create cultures. We construct stories of life experiences and create grand mythologies to make sense out of incomprehensible aspects of existence (e.g. randomness, death). However, the meme of the human meaning-maker ought not to become so embedded in the science of meaning that it all but crowds out the meaning that occurs in life in the absence of effortful construction (King, in press; King & Hicks, 2009a). Sometimes, we just know that something is meaningful, without the need to reflect on why or how this is so. What's been missing, then, from the science of meaning is an understanding not so much of meaning that is constructed or imposed but that which is simply *noticed* or *detected* (King & Hicks, 2009a).

Those times when meaning is experienced as effortlessly present might occur when connections exist in the world, independent of human construction. King (in press) has argued that although research on meaning has often been occupied with times when meaning is absent, a consideration of daily life suggests that, in fact, we live in a world that is characterized by pattern, regularity, lawfulness, and reliable connections. The world often makes sense. Heintzelman and King (2013) drew on James J. Gibson's approach to perception to argue that the experience of meaning need not inevitably rely on active constructive processes as it may emerge around the extraction of regularities in a lawful world. As noted by Gibson (1973, p. 396), 'If the specifying invariances are normally available an active observer can extract them and does not have to construct them.' To the extent that meaning is related to the perception of reliable connections, psychologists who study meaning would do well to bear in mind that, very often, such connections exist in the world.

More central to our purposes, detecting connections, associations, regularities (or invariants) in the environment is a capacity that is shared by all creatures and does not require conscious reflection or effortful construction (Evans, 2002; Geary, 2004). Visual perception includes the capacity to detect statistical covariation in the absence of effortful processing or awareness (Turk-Browne, Scholl, Chun, & Johnson, 2008). Further, the processes of classical and operant conditioning attest to the existence of the unconscious detection of reliable connections. These learning processes suggest the very strong relationship that exists between unconscious processing systems and external stimuli. The capacity to extract these connections is vital to survival and, again, does not require awareness. To the extent that meaning involves connections, then, unconscious processes may play a role in the experience of meaning.

Coherence

Many definitions of meaning include the notion that meaning involves an evaluation of one's life or circumstances as making sense or representing a coherent whole (see Steger's definition above). For instance, Reker and Wong (1988, p. 221) define life meaning as the 'cognizance of order, coherence …' and King, Hicks, Krull, and Del Gaiso (2006) suggest that, 'Lives may be experienced as meaningful when they are felt to … have a coherence that transcends chaos.' For some meaning theorists, a meaningful life is one that 'makes sense' (Baumeister, 1991; Baumeister & Vohs, 2002) or that possesses an overarching sense of coherence (Antonovsky, 1988, 1993).

Human beings can impose order or create comprehensibility, but active intentional processing is not necessary for the perception of coherence in external stimuli (Raftopoulos & Müller, 2006). The perception of the objective coherence of semantic, visual, and auditory stimuli is the product of unconscious processes (Topolinski & Strack, 2008; Volz & Cramon, 2006; Volz, Rübsamen, & von Cramon, 2008). Thus, the detection of coherence in the external world is, largely, the product of unconscious processes. In sum, then, the perception of connection and coherence, two meaning-relevant phenomena, appears to occur (far) upstream from phenomenal experience, supporting our proposal that constituent aspects of meaning are rooted in unconscious processes.

Subjective experience

Connections and coherence exist in the world and conscious awareness is not necessary for detecting these. We have explicitly referred to these as 'meaning-relevant' processes because, in our view, neither connections nor coherence constitute the human experience of meaning. Rather, from our perspective, meaning is a conscious experience, implicating awareness (c.f. Heine, Proulx, & Vohs, 2006 for an opposing view). Meaning is not merely connection or coherence but the subjective experience of these. Life, life events, experiences, and stimuli have no meaning except that they are meaningful *to someone*. This aspect of meaning was elegantly captured by Klinger (1977, p. 10), 'Meaningfulness is something very subjective, a pervasive quality of a person's inner life. It is experienced both as ideas and as emotions. It is clear, then, that when we ask about the meaningfulness of someone's life we are asking about the qualities of his or her inner experience.' In its essence, meaning is about inner experience. The experience of meaning is a phenomenological state. We propose that meaning is what *it feels like* to be a person for whom experience is making sense. From our perspective, in moments of connection or coherence, the feeling of meaning is likely to arise as an intuitive impression (an assertion supported by research we review shortly).

To briefly recap, then, connections and coherence are (often) features of the world. The presence of these features in the environment is detected by processes that are not available to awareness. This presence can be reflected in awareness, however, in the form of vague gut feelings or intuitions. Such feelings may be 'amorphous and fuzzy' (Mangan, 2001) but they are consciously felt, nevertheless. As such, people can report on the meaningfulness of various stimuli and experiences as well as the meaningfulness of their own lives. Such reports, at least in part, reflect an intuitive feeling. That is, meaning, when it is present, is an intuitive feeling state or feeling of rightness associated with the presence of reliable associations and coherence. Thus, research and theory on intuitive information processing have relevance to the science of meaning.

What we know that we cannot tell: meaning as an intuitive process

Intuitive information processing is generally characterized as occurring with little awareness (e.g. Baumann & Kuhl, 2002; Bolte & Goschke, 2008; Kuhl, 2000), as fast and effortless (Topolinski & Strack, 2008), and driven by internal cues (e.g. Topolinski & Strack, 2009c) that are experienced phenomenologically as hunches, gut feelings, or vibes (Epstein, 2008). Intuitive knowledge is self-evident and may be felt as 'just knowing,' without knowing why or how one knows (Block, 1995; Epstein, 2008; Epstein & Pacini, 1999; Kahneman & Klein, 2009; Kuhl, 2000; Price & Norman, 2008).

We have noted that research and theory support the idea that unconscious processes share a strong relationship with external stimuli, connecting us to the world in important ways. Intuitive information processing has been suggested to share a similarly strong relationship with external reality. For instance, Halberstadt (2010) has suggested that a crucial distinction between intuitive vs. reflective judgments is the fact that intuitive judgments are based on cues that share a reliable association with the natural world. Halberstadt (2010, pp. 64–65) defined intuition as 'a name for a collection of feeling states that (ideally) covary with the external world and that therefore can be used as direct proxies for more complex or effortful decision processes.' From our perspective, meaningfulness is, at least sometimes, one of these feeling states. For Halberstadt (p. 65), the apparent intelligence of intuition is 'attributable to fortuitous correlations with the structure of the world.' Thus, intuitive impressions may track the reliable connections and coherence of external reality. Like most promising ideas in psychology, the notion that intuitive impressions play

a role in the subjective experience of meaning was first noted by William James.

James' feeling of right direction

James (1890/1950) described the nonsensory fringe of the stream of consciousness as the flow of mental states surrounding focal conscious experience. These metacognitive experiences provide a sense of quality of the flow of the stream of consciousness. Of central importance to the fringe of consciousness is the 'subjective rationality of experience' or 'rightness of direction' of one's thoughts (James, 1890/1950). These vague indications of rightness or wrongness are experienced in consciousness in summary form, independent of the details amassed to draw these conclusions (Mangan, 2001). These feelings possess a self-evident validity signifying whether effortful sense-making is required. The feeling of rightness is responsible for our perception that experiences make sense (Mangan, 2000, 2001). We follow Mangan (2001, p. 13) in describing the feeling of 'right direction' as 'the feeling of meaning.'

James' description of the fringe of consciousness shares a great deal of overlap with contemporary approaches to intuitive information processing (e.g. Reber & Schwarz, 2001; Topolinski & Strack, 2009b). Intuitive information processing is often driven by aspects of the nonsensory fringe of consciousness, including factors such as processing ease and subtle affect. Most relevant to the current discussion is an impressive body of research on intuitive semantic coherence judgments by Topolinski and Strack (2008, 2009a, 2009b, 2009c), to which we now turn.

Intuitive judgment processes and meaning

Research on semantic coherence judgments involves presenting participants with three words (e.g. 'snow' 'base' and 'dance') and asking them to guess as quickly as possible whether or not the triad has a fourth common associate (e.g. in this case 'ball'). Participants are not asked to produce the common associate but rather to guess whether or not they *feel* that one exists. Research has shown that people show surprising accuracy in identifying coherent (i.e. those with a solution) and incoherent triads (i.e. those without a solution; Topolinski & Strack, 2008, 2009a, 2009b, 2009c, see also Bolte, Goschke, & Kuhl, 2003). In a very real sense, this task involves knowing without knowing how or why one knows, the essence of intuitive processing. Interestingly, thinking carefully actually impedes performance compared to completing these tasks relying on intuitive hunches (Topolinski & Strack, 2008).

From these findings, Topolinski and Strack (2009c) constructed a fluency-affect model of intuitive judgments. According to this model, coherent triads are processed more fluently than incoherent triads (Topolinski & Strack 2009a). This fluency, in turn, produces subtle changes in 'free floating' positive affect that give rise to the gut feeling of rightness that leads to the judgment. In numerous studies, Topolinski and Strack (2009a, 2009b, 2009c) found evidence for the causal role of processing ease and subtle positive affect in intuitive accuracy. In addition, the ease of processing associated with coherent triads produced subtle changes in facial musculature activity suggestive of positive affect (Topolinski, Likowski, Weyers, & Strack, 2009). Bolstering this model of intuitive processing of coherence, another study found that the logicality of syllogisms was also intuitively detected and again that this process operated through subtle changes in affective states (Morsanyi & Handley, 2011).

This research has a number of lessons for the science of meaning. First, note that the coherence or incoherence of triads is objectively defined. Thus, these intuitive judgments are directly tied to features of the external world. Second, objectively coherent stimuli are more easily processed than incoherent stimuli, suggesting that aspects of the nonsensory fringe do, in fact, covary with meaning-relevant features of the environment. Third, the affect that accompanies encounters with coherent stimuli is of a positive valence, suggesting that when stimuli possess objective coherence, subtle increases in positive affect occur. Fourth, note that, as argued by Hicks, Cicero, Trent, Burton, and King (2010), these semantic judgments can be viewed as meaning-relevant. At their base, these judgments involve deciding whether a triad makes sense or not. Finally, then, we note that this research provides evidence for the relevance of intuitive processing in meaning judgments. To the extent that these judgments involve separating the meaningful from the meaningless, this body of work suggests that intuitive processes play a key role in meaning judgments. Further, as noted above, intuitive processing is superior to reflective processing in this regard.

Could these sorts of processes have a role to play in subjective experience and reports of meaning or even meaning in life? Although research has yet to address the influence of processing ease and subtle changes in affect to the phenomenal experience of meaning, the role of positive affect in this experience has been shown in a wide array of studies.

Positive affect and meaning

Research supports the view that positive affect is sufficient (though not necessary) for the experience of meaning in life (Halusic & King, 2013). Positive affect and self-reported meaning in life are strongly correlated (e.g. King et al., 2006; Schlegel, Hicks, Arndt, & King,

2009) even controlling for other sources of meaning including depression, self-esteem, religious commitment, and the self-determination needs of autonomy, competence, and relatedness (Lambert et al., 2010; Trent & King, 2010). Further, experimentally induced positive affect leads to higher reports of meaning in life (e.g. Hicks & King, 2008, 2009b; Hicks, Trent, Davis, & King, 2012; King et al., 2006). The relationship between positive mood and meaning in life is especially strong when other sources of meaning in life are absent, lacking, or threatened (Hicks & King, 2008; Hicks & King, 2009b; Hicks, Schlegel, & King, 2010) and is amplified with age and limited time (Hicks et al., 2012). This very strong association is demonstrated, as well, in research showing that subliminal primes of words such as happy, jovial, and content lead to higher reports of meaning in life compared to a control condition, even though these words have no effect on explicit mood (King et al., 2006). In sum, positive affect appears to serve as a signal that one's life is meaningful.

Individual differences in intuitive processing and meaning

With regard to meaning judgments for more circumscribed targets, Hicks, Cicero et al. (2010) provide evidence suggesting that the link between positive affect and meaning is especially strong for individuals who generally rely on intuitive information processing, as measured using the Faith in Intuition subscale of the Rational-Experiential Inventory (Pacini & Epstein, 1999). This measure includes items such as 'I believe in trusting my hunches.' Individuals high in faith in intuition who are also in a good mood attribute more meaning to potentially meaningless stimuli such as ambiguous quotations and abstract artwork as well as for real-life events including a football loss and Hurricane Katrina (Hicks, Schlegel, & Kings, 2010). A separate study of referential thinking, the tendency to find self-relevant meaning in random events, produced similar results. Intuitive individuals in a good mood were more prone to endorse items such as 'Traffic lights turn red *because* I am in a hurry' (King & Hicks, 2009b).

Research showing that intuitive processing and positive mood predict self-ratings of meaning is clearly potentially problematic. As noted by Mangan (2001, p. 13), 'When the feeling of meaning is present even gibberish will feel like it makes perfect sense.' Can these reports be considered accurate? Importantly, Hicks, Cicero, et al. (2010) examined this issue in a study of semantic coherence judgments. They found that intuitive individuals in a positive mood showed *greater accuracy* in discriminating sense (i.e. coherent triads) from nonsense (i.e. incoherent triads). These findings suggest that meaning is derived from intuitive feelings that can accurately track reality.

Unconscious priming and meaning in life judgments

Additional evidence for the role of unconscious processes in meaning in life judgments comes from a number of studies demonstrating the effects of social cognitive factors on these judgments. For instance, making various sources of meaning in life, such as the true self Schlegel et al. (2009), cognitively accessible increases meaning in life ratings. Subliminal primes can also influence the sources of information which are used in meaning in life judgments. For instance, Hicks and King (2008) primed Christian participants with words related to heaven (e.g. god, heaven, salvation), or to hell (e.g. Satan, hell, damnation), or control words (e.g. hubcap, ripple, violin). They found that priming participants with words related to hell eliminated the relationship between religious commitment and meaning in life. Similarly, Hicks, Schlegel, and King (2010) found that primes of loneliness not only enhanced reliance on positive mood in meaning in life judgments, but wiped out the relationship between social relatedness and meaning in life. These results support the idea that information that is not consciously processed nevertheless exerts a dynamic influence on meaning in life judgments.

Implications of intuitive meaning processes for the science of meaning

Conceiving of meaning as an intuitive experience rooted in unconscious processes has a number of implications for a broadened understanding of meaning and suggests new directions for future research. Furthermore, this novel perspective contributes to an important discussion regarding the measurement of meaning and meaning in life.

Focusing on the automatic basis of the experience of meaning is a departure from other prominent models of meaning, a divergence that can help us to more fully comprehend these models. For instance, this approach might help to elucidate some perplexing findings in meaning-making research (Park, 2010). Recognizing the characteristics of meaning when it is present (and illuminating the underlying processes that give rise to this experience) suggests that consciously constructing meaning is an unusual process not to be equated with ordinary experiences of meaning. Thinking about meaning as we have here provides a sense of what it is that meaning-making efforts are striving to recover and may provide clues to effective ways to create meaning. For a constructed meaning to approximate the feelings of meaning that naturally emerge as intuitive feelings that track existing connections and coherence would seem to require that it appeal to intuitive processes. As such, some constructed meanings may be more likely to lead to resolution than less intuitively persuasive constructed meaning, a possibility that could untangle disparate findings in the

meaning-making literature. Constructed meanings may have an unusually idiosyncratic appeal, as each meaning-maker searches for the causal scheme, interpretation, or story of experience that 'feels right' to him or her.

Relatedly, consider the problem of conscious processing and meaning. Psychologists, philosophers, and any number of others have devoted great thought to the topic of meaning. Such reflection, as we have noted, has failed to produce a truly satisfying definition of the experience. This conundrum might suggest that thinking, reflection, and analysis, conscious processes that are undeniably quite useful in human life share a potentially adversarial relationship with the experience of meaning. Recall that in semantic coherence judgments, effortful processing leads to poorer performance (Topolinski & Strack, 2008). A similar process occurs with a range of automatic processes. For example, overthinking complex decisions (Djiksterhuis & Aarts, 2010; Wilson & Schooler, 1991) or overlearned motor skills such as a golf swing (Flegal & Anderson, 2008) lead to poorer performance. Semantic meaning can be lost, as well, through repetition (Smith & Klein, 1990). If the experience of meaning emerges from unconscious processes, then it may be the case that overthinking meaning may strip inherent meaning away. A basic function of the reflective system is to override intuitive processing when such processing is likely to lead to mistakes (e.g. Epstein, 1994). The conscious system not only knows but knows why it knows. Thus, conscious efforts to find or construct meaning may ironically eradicate meaning when the self-evident nature of intuitive meanings comes under fire with the demand of consciousness for an explanation. Acknowledging the potentially nonrational, intuitive nature of the feeling of meaning would allow for a greater understanding of the experiences that seem innately and even inescapably meaningful.

Indeed, random events may be an important topic for research on the felt presence of meaning. Freud (1919/1953) stated that 'an uncanny atmosphere … forces upon us the idea of something fateful and inescapable when otherwise we should have spoken only of "chance"' (p. 230). Jung (1950/1997) similarly posited 'the coincidence of events in space and time as meaning something more than mere chance' (p. xxv).

An empirical example is provided by a study of narrative constructions of meaning in parents of children with Down Syndrome (DS) (King, Scollon, Ramsey, Williams, 2000). In this study, parents wrote the story of finding out that they would be parenting a child with DS. For 17% of these parents, the story began, not with a prenatal test, or a few moments after the child was born but instead months before, when the fact that the child had DS was foreshadowed by an objectively random event. For example, one woman began her story with of receiving a parenting book at a baby shower. Her husband opened the book 'at random' and started reading. They both 'recoiled in horror' as they realized he was reading about DS (King et al., 2000, p. 519). Other parents mentioned similarly random events, dreams, or vague hunches that occurred and persisted despite no medical evidence of any problems. Those who included such foreshadowing were more likely to have found positive meaning in the experience of parenting a child with DS (King et al., 2000).

Less dramatic examples of meaning bubbling into awareness are part of everyday life, for instance, when it crosses our mind that for a moment, that it is raining *because* we forgot our umbrella. Research findings support this relatable anecdote and provide evidence to bolster the link between intuitive processes and the experience of meaning. For individuals in a good mood, referential thinking, an overwhelmingly intuitive experience, is associated with meaning in life (Hicks & King, 2009b). Like referential thinking, experiences with the uncanny, apparent synchronicity, foreshadowing, and these odd moments of meaningfulness all bear the stamp of intuitive processing. They represent nonrational, self-evidently valid connections drawn from random events. In each of these instances, meaning is there for the taking rather than something that is intentionally and effortfully pursued. Further exploring such experiences might help to more fully illuminate the presence of meaning.

Implications for meaninglessness

The notion that meaning can be experienced as an emergent intuitive feeling may surprise some readers as meaning is often considered to be difficult to attain, an effortful pursuit considered to be the most interesting in its absence. One may argue that if meaning is the intuitive recognition of regularity, that it must be ever present, and that this certainly cannot be the case. However, these concerns may be misplaced as, despite the common assumption that meaning is difficult to obtain, meaning *is* commonplace. Contrary to popular conceptualizations of meaning as difficult to attain, scientific research on meaning in life does not reflect a predominance of meaninglessness. It would seem to be more accurate to note that most lives are, actually, brimming with meaning. Mean scores on self-report measures of meaning in life are typically above the midpoint of the scale (e.g. Steger, Frazier, Oishi, & Kaler, 2006). The experience of meaning in life, then, seems to be more prevalent than it is sometimes portrayed to be. This feature of meaning is fitting if we consider meaning to be an *adaptive* experience. Anything needed for survival should not be difficult to attain (Halusic & King, 2013). Though states of meaninglessness are surely vivid cases, they do not represent the norm. Rather meaningless is the exception to the rule.

Researchers working within the MMM have conducted work that may speak to this issue, investigating responses to violations of expectations (Heine et al., 2006). Participants who are exposed to stimuli that are incongruous (e.g. random word pairings; Randles, Proulx, & Heine, 2011) or highly irregular (e.g. a 'transmogrifying experimenter'; Proulx & Heine, 2008) respond in a manner that may indicate meaning compensation – efforts to reinstate meaning. Compared to controls, such individuals show improved performance on an artificial grammar task (involving pattern recognition) and set higher bails for a hypothetical prostitute. To the extent that these are meaning-relevant tasks, they suggest that when meaning is threatened in one domain, it is reinstated in another. This work suggests that individuals do not experience meaningless for long before naturally engaging in reparative processes to return to the, perhaps, default state of meaning.

It should be noted that the meaning we are discussing here is the cognitive aspect of meaning. Definitions of meaning in life contain not only themes regarding connections and coherence, as we have outlined above, but also personal significance and a sense of purpose. These latter components of meaning are motivational in nature, rooted in more stable aspects of life such as relationships and religious devotion. Thus, it may be that when people note the dearth of meaning in human life they are referring to a lack of personal significance or a sense of purpose.

A caveat: purpose

Indeed, we would be remiss if we did not confront what is possibly the most commonly featured theme in definitions of meaning, that meaning is a sense of purpose (Crumbaugh & Maholick, 1964; Emmons, 2003; Frankl, 1963/1984; King et al., 2006; Klinger, 1977; Reker & Wong, 1988; Ryff & Singer, 1998; Steger, 2012). How does a sense of purpose fit into our scheme? Here, we offer just a few thoughts in this regard. First, it is important to note that, although goals would seem to be strongly tied to conscious experience, unconscious processing systems seek goals and unconscious priming can influence behavior in ways suggestive of motivational states (Bargh & Morsella, 2010; Djiksterhuis & Aarts, 2010; Morsella & Bargh, 2010). Nevertheless, it seems difficult to imagine that unconscious goal pursuit could enhance the phenomenal feeling of purpose, though this is an empirical question.

Scholarly considerations of the functions of consciousness have identified the capacity for mental time travel as a distinctive feature of conscious processing (e.g. Bargh, 2004). To the extent that goals attach us to an imagined future, they may serve meaning functions that are of particular relevance to the reflective mind. Reflective processing involves knowing and knowing why one knows. To the extent that answering the question 'why?' is central to the conscious experience of meaning (Janoff-Bulman & Yopyk, 2004), goals provide ready answers to life's 'why' questions. Finally, goals are the connective fiber of mental life, creating beginnings, middles, and endings (King, 2008). We can see that a sense of purpose may serve to provide life with a series of grand connections and an overarching order. In this sense, goals may be a key way in which 'humans beings construct and impose' meaning.

Implications for measurement: the strong case for vague self-reports

The difficulties of operationalizing meaning are commonly, and perhaps justifiably, perceived as a challenge to the scientific measurement of the amorphous construct (e.g. McDonald, Wong, & Gingras, 2012). And, at first blush, the notion that meaning is tied up in unconscious processes would seem horrifically problematic for a research area dominated by the use of self-report measures that ask people to rate the meaningfulness of their lives. Indeed, research on meaning in life relies heavily on self-report scales. Among the most prominent scales are the Meaning in Life Questionnaire (MLQ; Steger et al., 2006), the Purpose in Life Test (PIL; Crumbaugh & Maholick, 1964), the Life Regard Index (LRI; Battista & Almond, 1973), and the Sense of Coherence Scale (SOC-M; Antonovsky, 1987). Other meaning scales that are not used as frequently (Steger et al., 2006) include the Life Attitude Profile (Reker & Peacock, 1981), the Life Attitude Profile – Revised (Reker, 1992), and the Purpose in Life subscale (Ryff, 1989). McDonald, Wong, and Gingras (2012) provide an overview of a number of relevant scales including those already mentioned as well as the Sources of Meaning and Meaning in Life Scale (Schnell, 2009), the Spiritual Meaning Scale (Mascaro, Rosen, & Morley, 2004), the Schedule for Meaning in Life Evaluation (Fegg, Kramer, L'hoste, & Borasio, 2008), the Seeking of Noetic Goals scale (Crumbaugh, 1977), and their own Personal Meaning Profile (Wong, 1998). Attempts have been made to consolidate a wide range of the constituents of these meaning in life measures into a measure of meaning as defined most broadly. One such example is Morgan and Farsides' (2009) Meaning in Life Measure which encompasses five aspects of meaning in life: purposeful life, principled life, valued life, exciting life, and accomplished life.

Clearly, the research literature is replete with self-report measures of meaning. Although each of these scales assesses meaning in life with a slightly different focus, they all contain items that directly ask participants to rate their life's meaning without providing respondents any definitional parameters. For example, the MLQ

presence of meaning subscale includes the item, 'I understand my life's meaning.' Similarly, Krause's meaning scale (2004) asks participants to rate statements such as 'I feel like I have found a really significant meaning in my life.' The PIL (Crumbaugh & Maholick, 1964) contains the items 'I regard my ability to find a meaning, purpose, or mission in life as very great,' and 'My personal existence is very purposeful and meaningful' and the LRI (Battista & Almond, 1973) contains the reverse-coded item 'I imagine that my life in the future will be totally without meaning or purpose.'

The importance of meaning in life research using such self-report techniques is evident in that these reports are related to a number of undeniably vital outcomes such as life satisfaction (Steger & Kashdan, 2007; Zika & Chamberlin, 1992), depression, (e.g. Mascaro & Rosen, 2005), alcohol and drug use (e.g. Lecci, MacLean, & Croteau, 2003), risk of Alzheimer disease (Boyle, Buchman, Barnes, & Bennett, 2010), and suicidal ideation (e.g. Heisel & Flett, 2004; see Steger, 2012 for further examples). This body of research strongly supports the conclusion that reporting one's life as 'meaningful,' whatever the person means by that, is associated with positive outcomes.

That these measures rely on a person's intuitive definition of meaning may seem troubling but this reliance, in our view, is appropriate given the inarticulate nature of experiences of meaning in life. Though there may be value in a continued pursuit toward understanding issues related to self-report in meaning in life research, such as exploring peer reports, abandoning self-reports in this literature would be a mistake. From our perspective, there is wisdom in relying on what people think meaning is in these reports because meaning possesses ineffable qualities. Such subjective judgments of meaning encompass more than we can say about meaning, what we know but cannot put into words about this experience.

James (1890/1950, p. 276) noted that 'for inarticulate thoughts … introspection must confess that the task exceeds her powers. The mass of our thinking vanishes forever, beyond hope of recovery, and psychology only gathers up a few of the crumbs that fall from the feast.' We suggest that continuing to use self-report measures of meaning allows us to gather as many 'crumbs' as possible. These reports may include a bit of the mysterious, unspoken, and, perhaps, inarticulate aspects of meaning itself. Although scientists and lay observers alike may have trouble defining meaning, like other aspects of intuitive knowledge, people know it when they feel it. Like Hicks and King (2009a), we note that, in this case, 'letting the mystery be' is not an inappropriate or unscientific decision.

New directions for meaning research

Finally, our perspective of meaning as rooted in intuitive processes expands the relevance of meaning into a number of novel areas. For instance, we could begin to start talking about variables such as heuristics and stereotypes as meaning-relevant constructs. Additionally, this conceptualization of meaning opens new empirical directions working toward an understanding of meaning not only when it is challenged but also when it is present. Thus, meaning could be gainfully inserted into work regarding those aspects of life that support regularity, pattern, and coherence, including habits and routines.

Research has begun to explore this possibility, measuring meaning in life after exposure to objectively coherent or incoherent stimuli (Heintzelman, Trent, & King, 2013). For example, participants who were exposed to pictures presented in a patterned order reported higher levels of meaning in life than those who viewed the same pictures in a random order. Similarly, participants who read a series of coherent semantic triads (such as those described above) reported higher meaning in life than those who read the very same words, rearranged as incoherent triads (Heintzelman et al., 2013). These findings support the hypothesis that experiences with regularity can influence evaluations of life's meaning. Exposure to stimuli that is characterized by pattern or coherence can support the sense that life is meaningful.

Although we have touted the benefits of amorphous self-report items over those requiring insight into incomprehensible meaning processes, we also find the development of other forms of measurement for meaning to be a valuable endeavor. One such measurement strategy that may valuably depart from transparent self-report scales is facial electromyography (EMG). The subtle affect stemming from experiencing fluency is apparent in facial musculature changes (Topolinski, Likowski, Weyers, & Strack, 2009; Winkielman & Cacioppo, 2001). Measuring such a physiological correlate to the experience of meaning would be an important complement to the self-report findings in this area. Further, incorporating brain imaging methods into the science of meaning is an important direction for future research. Our analysis would suggest that, at the very least, the emerging neuroscience of intuitive processing (Lieberman, 2000; Volz et al., 2008) provides clues about the role of brain areas in the detection of regularity and coherence. Neural correlates of, not only the detection of these features in stimuli but the emergence of these in awareness could provide provocative information for the science of meaning. Such work might allow us to examine when (and why) such detection is reflected in awareness and when it passes without notice.

Finally, although we have briefly reviewed research that has examined the role of unconscious primes in meaning in life judgments, the incorporation of social cognitive methods into research on the experience of meaning represents a largely untapped and rich potential tool box. For instance, rather than focusing on meaning in life as the outcome of social cognitive factors, research might incorporate measures from the social cognitive tradition to examine the automatic cognitions that are promoted by questions about meaning and meaning in life. Past research has usefully examined, for instance, naïve notions of the definition of meaning (e.g. Lambert et al., 2010). Such research typically relies on conscious reflection and is likely influenced by conscious beliefs and cultural scripts about what makes life meaningful. In contrast, studies incorporating, for instance, reaction times to proposed meaning-relevant words or concepts might provide a clue to the types of ideas that are automatically activated by questions concerning meaning. Such research might help us to understand what participants are rating when they rate their experiences of meaning.

Concluding remarks

In their classic studies, Nisbett and Wilson (1977) showed that people were unaware of the process that produced a response. Nevertheless, they were willing to provide elaborate explanations for these behaviors, telling more than they could possibly know. We suggest that in evaluating the experience of meaning, people are reporting on a phenomenon about which they actually know a great deal. Some of that knowledge is, in a sense, beyond words. Meaning reports are, at least in part, about a feeling of rightness that emerges from processes that are unavailable to consciousness. Acknowledging this feature of meaning would allow the scientific study of meaning to proceed in gainful directions toward a more complete understanding of the process and importance of such experiences. In addition, it would allow us to stop spinning definitional wheels seeking consensus about a topic that is not especially likely to ever find resolution. In its essence, meaning is an experience we know better than words can say.

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