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INTRODUCTION: THE NEW SCIENCE OF MEANING

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After reading the introductions to a number of books and volumes, it becomes apparent that authors will commonly begin by commenting on the diversity of the perspectives represented in the various chapters. This is especially true of the sort of volume that deals with a general topic (e.g., relationships) rather than a specific field (e.g., evolutionary psychology) or theoretical perspective (e.g., cognitive dissonance theory). In truth, there may be more variety in volumes that deal with a general topic in psychology, relative to other social sciences, given the natural diversity of research methodologies that characterize our science and the disparate manifestations of human mental life that these methodologies assess. For example, self-reports, scales, experimental outcomes, and EEG readings can all tell us something about “relationships” as this notion is commonly understood. However, when dealing with a notion that shares considerably less in terms of a common understanding (superficially, at least), one might expect this natural diversity to multiply further.

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The Psychology of Meaning, Keith D. Markman, Travis Proulx, and Matthew J. Lindberg (Editors)
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This brings us to our current volume—dealing with the psychological study of meaning—and we will begin by commenting on the diversity of the perspectives represented in the various chapters. Like any volume in psychology that deals with a general topic, there is a great deal of variety in the research methodologies that are summarized and in the theoretical perspectives that frame these research efforts. However, even for those who make their way through these chapters with the expectation of diversity, the sheer scope of the diversity may nevertheless be surprising. Chapters describing anterior cingulate cortex activation in response to goal frustration (Tullett, Prentice, Teper, Nash, Inzlicht, & McGregor, Chapter 20) are included within the same volume as coping strategies following a cancer diagnosis (Park, Chapter 13). We have vascular constriction following expectancy violations (Townsend, Eliezer, & Major, Chapter 19) and the narratives we construct to imbue our lives with a sense of continuity and purpose (McAdams, Chapter 9). Taken together, it might not be clear to a reader from a different discipline (or even from the same discipline) why it is that these chapters should be taken together at all.

Perhaps this is because the *psychology of meaning*—as a distinct discipline—is just now beginning to coalesce. For the first time, psychologists working from different disciplines are comprehending themselves as working toward a common understanding of how it is that people come to understand themselves, their environment, and their relationship to their environment. Across numerous fields in psychology, there is growing recognition that however meaning is construed, all accounts of meaning converge at *sense making*, and psychologists that have explored sense making from a variety of perspectives are increasingly understanding these efforts in terms of meaning. Once the province of existential philosophy, existential psychology, and the related clinical literature, *meaning* is a word that appears with greater frequency within the social, cognitive, and cognitive neuroscience literatures.

Meaning is now something measurable—or perhaps more to the point, meaning is something that has been measured for decades in experimental psychology, along with the affective consequences of meaning loss and growth. These efforts have taken place in different eras using different nomenclatures, with a more recent recognition that something is to be gained by understanding these efforts in terms of a common psychological phenomenon.

In what follows, we summarize some of the classic theoretical underpinnings of the emerging psychology of meaning, with special emphasis on the existentialist perspective that understood meaning in a way that converges with our present understanding, and provides a blueprint for subsequent efforts. As we go on to describe, all of these perspectives intersect at a central understanding of meaning making: the ways that we *make sense* of ourselves and our environment, the feelings that are aroused when these understandings are

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constructed or violated, and the common ways in which we respond to these violations. In particular, we focus on a general distinction within the notion of meaning that can often obscure what meaning always is—a sense of *what* is, and a sense of *why* this should be so. To a remarkable extent, the chapters that constitute this volume on meaning mirror this distinction, focusing on both the *what* and the *why* of sense making. In particular, these chapters also describe a strikingly analogous account of the feelings and behaviors that follow from violations of either the *whats* or the *whys* of sense making.

MEANING: THE WHAT

Rene Descartes was looking for certainty. Presaging the existentialist movement by 2 centuries, his epistemic worldview was built on the rubble of what had been recently demolished—a diminished sense that life was something he could *understand*. In his *Meditations*, Descartes (1642/1988) begins by lamenting the “large number of falsehoods” he had previously accepted to be true and the “highly doubtful nature of the whole edifice [he] had subsequently based upon them” (p. 76). To rebuild this edifice, Descartes seeks out a foundation of absolute certainty, which he understands as his *Archimedean Point*: “Archimedes used to demand just one firm and immovable point in order to shift the entire earth; so I too can hope for great things if I manage to find just one thing, however slight, that is certain and unshakeable” (p. 80). So intent is Descartes on locating one suitable certainty that he is willing to “if nothing else . . . recognize for certain that there is no certainty” (p. 80).

Given the intellectual lengths that Descartes is willing to go in this quest for certainty—even accepting nihilism if it provides him one firm point—the alternative must have been something that he was especially keen to avoid. What was this alternative, which prompted him to rebuild his philosophy on the foundation of his own, seeking consciousness (i.e., “I think therefore I am”)? Descartes’ greatest fear was not ignorance but a kind of fear in itself. For Descartes, *anxiety* was the alternative to understanding, which he expresses with one of the most elegant metaphors in Western philosophy—the Cartesian *drowning* that “feels as if I have fallen unexpectedly into a deep whirlpool which tumbles around me so that I can neither stand on the bottom nor swim to the top” (1642/1988, p. 80).

Centuries later, Descartes’ fellow countryman—French *pied-noir* Albert Camus (1942/2004)—would present a similar psychological account: a fundamental impulse to make sense of our experiences, the ability of anomalous experiences to undermine these understandings, the subsequent feelings of uncertainty and anxiety, and the motivational role of these feelings in altering or adopting new understandings. Like Descartes, Camus laments

the seemingly arbitrary construction of our speculative models, along with their endless alteration, abandonment, and adoption in the face of endless disconfirmation (“Have I the time to become indignant? You have already changed theories” [p. 454]). He acknowledges the metaphorical nature of our descriptive knowledge structures, “that resolve uncertainty in a work of art” (p. 454), along with the irrationalities and paradoxes that become apparent when these models become objects of reflection. Our capacity for thoughtful reflection, more generally, is understood as a mixed blessing for Camus, insofar as “Beginning to think is beginning to be undermined” (p. 442).

MEANING: THE WHY

Rising, streetcar, four hours in the office or the factory, meal, streetcar, four hours in the office or the factory, meal, streetcar, four hours of work, meal, sleep, and Monday Tuesday Wednesday Thursday Friday and Saturday according to the same rhythm—this path is easily followed most of the time. But then the ‘why’ arises and everything begins in that weariness tinged with amazement. (Camus, 1942/2004, p. 448).

These philosophical theorists describe an epistemic understanding of what *is*—our naïve (or not so naïve) scientist conception of what exists and how these existing things tend to interact with one another. While the violations of these understandings are associated with a “feeling of absurdity” (Camus, 1942/2004, p. 442), this feeling also arises when other understandings are brought into question: a sense of the *why* of any of what *is*, should be. According to Camus, every thinking person has reflected upon the daily activities that constitute their everyday life and asked this fundamental question: what is the *purpose* of these activities? Are these the goals that we should be pursuing? What are those goals, and what other, higher goals might they be instrumental in achieving? And what is the context that provides us with an answer to these questions?

What is perhaps most remarkable about Camus’ (1942/2004) understanding of *why*, is the relatively unprompted nature of the question. We don’t have to be trapped in an especially tortuous existence to have this question occur to us—it is understood to be innate, and we feel anxiety in the absence of an answer. Moreover, it is a sense of pointlessness that underlies the real “pain” of suffering; it is the “uselessness of suffering” (p. 443) that creates the most anxiety in the face of hardship. When describing his own experiences in a concentration camp, Victor Frankl (1946) confirms this contention with numerous concrete examples of pointless pain and punishment:

At such a moment it is not the physical pain which hurts the most (and this applies to adults as much as to punished children); it is the mental agony that is caused by the injustice, the unreasonableness of it all. (p. 24)

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Given that useless suffering can cause such anguish, it should be no surprise that the anguish of useless suffering is alleviated if suffering is imbued with purpose, even (or especially) by the person enduring the misery. In allegorical terms, Camus (1942/2004) recounts the “Myth of Sisyphus,” in which the gods punish the titular rebel by assigning him a miserable, futile, and utterly pointless task: pushing a boulder to the top of a hill, watching it roll down the hill, and pushing it back up (again, for all eternity). More ingenious than an eternity of acute pain or the eternal slumber of death, the gods can imagine no worse torture than an existence with no *why*. However, in truth, the true horror of this fate is felt by Sisyphus only when he thinks to ask *why* and is aware that there is no obvious answer—his fate is “tragic only in the rare moments when it becomes conscious” (p. 491).

Yet even in these moments, Sisyphus is able to abridge this tragedy by imbuing it with a *purpose*. While the gods can forcibly assign his task, they cannot shape his attitude toward this task and the way he can choose to interpret it. The same consciousness that asks *why* can *construct* an answer, can choose what is fated, and even take pleasure in it, reveling in an absurd task which he understands to be beneath him (“There is no fate that cannot be surmounted by scorn” [Camus, 1942/2004, p. 491]). And once again, Frankl (1946) validates this metaphorical prescription against the agony of pointlessness; even in the denigrating miseries of a concentration camp, it was clear that “everything can be taken from a man but one thing: the last of the human freedoms—to choose one’s attitude in any given set of circumstances, to choose one’s own way” (p. 66). In the face of active suffering, the enduring of suffering can be framed in terms of “a genuine inner achievement.” “It is this spiritual freedom—which cannot be taken away—that makes life meaningful and purposeful” (p. 67).

MEANING AND PURPOSE?

Frankl’s (1946) tacit distinction between “meaning” and “purpose” is telling: why not simply use a single word for both notions, if they represent the same notion? Or—as this tacit distinction implies—are they actually two different notions, in which “meaning” deals with the *what* and “purpose” deals with the *why*. Camus’ (1955) discussion in “An Absurd Reasoning” is typical among existentialist essays in making a distinction between epistemic meaning (an understanding of *what is*) and teleological meaning (an understanding of purposes, and *what should* follow)—and then describing these notions somewhat interchangeably in his account of existential repair and growth. On the one hand, Camus outlines a desire for clarity and familiarity. He presents scientific models—their empirical descriptions and hypothetical conjectures—as efforts to meet this need. Ultimately, he feels these efforts

don't quite get at what we really want, insofar as they don't give us that most basic mode of familiarity—an anthropomorphic understanding of our experiences. (What do we understand better than ourselves and other people?) It is no coincidence that our initial efforts to understand reality involve human metaphors of growth, mood, and desire. And while petitioning a pantheon of (phenomena personifying) gods may be an ineffective means of interacting with our environment—relative to scientifically derived models—they remain far more psychologically satisfying than strictly empirical accounts.

On the other hand, Camus (1942/2004) distinguishes between these “scientific truths” and the reasons we use to justify our behaviors and our own existence. This is especially true of situations in which suffering becomes salient—in the absence of a “reason for living,” we will commonly judge that enduring our suffering “is not worth the trouble” (p. 443). For those who draw this conclusion for their own lives, the end result is suicide, and while this is a relatively infrequent event, Camus believes that the contemplation of suicide is nearly ubiquitous. As noted, Camus understands the role that teleological reasons can play in ameliorating the psychological impact of suffering, and Frankl provides concrete support for the palliative role of purpose in those situations in which one is unilaterally deprived of active pleasures. In these extreme scenarios, suicide becomes commonplace—even rationally so—in absence of good (enough) reasons to endure.

So far, it sounds like we have two distinct “systems of relations” (Camus, 1942/2004, p. 452): those that *describe* and those that *justify*. But even in the face of this distinction, these different systems of relations are just that: systems of expected relationships that ultimately allow us to make sense of ourselves and the world. For Camus, both of these kinds of reasons—the *what* and the *why*—may serve a broad function. In the absence of *why* reasons, a suicidal act could indicate “that life is too much for you, or that you don't understand it”—a failure to ameliorate suffering and make sense of our existence. (“A world that can be explained even with bad reasons is a familiar world” [p. 454]). For Camus, both of these kinds of expected relationships are formed by the same basic motivation: “a nostalgia for unity,” which he situates as the “fundamental impulse of the human drama” (p. 452). And the alteration or adoption of these systems is motivated by the same anxiety that follows their violation, whether it is a violation of our scientific understanding, or our understanding of the reasons for why life is worth living.

THE PSYCHOLOGY OF MEANING: THE WHAT AND THE WHY

If you ask a sampling of top psychological researchers and theorists to pen a chapter on meaning, the convergent picture that emerges is also a snapshot of this broadly philosophical understanding, one that transcends

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disciplines and eras. In terms of philosophy of science, it could be argued that these broadly analogous themes offer convergent validity for a general account of human meaning making. Or more simply—it suggests that we're all on to something. Whatever that something is, it involves both epistemic understandings and teleological understandings and how violations of either kind of understanding likely bottleneck at the same syndrome of arousal and activation and produce the same series of analogous behavioral responses. When surveying these impressive chapters, the *what* and the *why* intertwine and overlap, in the same ways that these understandings overlap in existentialist theory, and the same ways that means and ends overlap in everyday life.

Meaning: What and Why

Many of the chapters in this volume provide evidence that violations of expected relationships—whether they impact a sense of the *what* or the *why*—provoke common physiological and neurocognitive responses. In turn, these states of arousal likely motivate our efforts to make sense of experiences and restore a sense of meaning when our sense-making efforts fail. Peterson (Chapter 2) provides the widest ranging of these accounts, taking us from sponges to (post) modern humans, as each organism forms patterned responses to their respective environments. The latter organism comes to form schematic representations of what is and what should be, in which these meaning frameworks can be understood in terms of three general domains: the domain of the *known*, the domain of the *unknown*, and a third domain that constitutes their intersection and interaction; it is in this third domain that meaning *making* takes place. Peterson goes on to provide a comprehensive account of the neurocognitive systems that determine how we behave in each of these domains, while later chapters focus their attention on specific systems that play a role in meaning making and maintenance.

Arndt, Landau, Vail, and Vess (Chapter 3) also argue for the motivational role of aversive arousal in meaning-making efforts and offer a broad overview of *what* and *why* meaning structures. Arndt et al. argue that epistemic structures are “not important for their own sake,” and occupy a micro, lower level status relative to macro, higher level values that are, in turn, important insofar as they assuage death anxiety. Conversely, Proulx (Chapter 4) offers a more ecumenical picture, in which epistemic and values motivations are understood as distinct and complimentary. From this perspective the violation of *what* and *why* meaning structures evoke aversive arousal in proportion to our level of commitment to a given meaning framework rather than the content of any given meaning framework.

Meaning: What

At the outset of Tory Higgins's contribution to this volume (Chapter 5), he makes a distinction between means, ends, and our sense of efficacy in attaining them—namely, a truth motivation, value motivation, and control motivation. Truth motivation is understood as our general motivation to determine what is real, and Higgins draws from a variety of cognitive consistency perspectives in arguing that epistemic needs are just that—a distinct need. While truth motivation can be understood in terms of value motivation (i.e., we fulfill the goal of establishing the truth), it also constitutes a distinct motivational force that is independent from, and does not reduce to other motivations for, value or control. Higgins argues that truth motivation cannot be understood in typically hedonic terms, insofar as we are motivated to seek truth, even if it undermines values or brings us misery. Nevertheless, Higgins acknowledges that we also feel “confused and bewildered” when our truth motivation goes unsatisfied—not a pain per se but an aversive state that echoes the anxiety and uncertainty that is often understood as pushing us towards “the real.”

Burton and Plaks (Chapter 6) also begin their chapter with a similar distinction between the “way things are” and “how things should be,” though their focus is on the former: the epistemic lay theories that are “central to one's sense of epistemic comfort and competence.” In particular, Burton and Plaks focus on those lay theories that are crucial in guiding our interpretations of and predictions for intentional behavior, both our own and others'. People tend to understand human qualities from generally incremental (a focus on variability and context) or entity (a focus on stable traits) perspectives. Remarkably, people will report feeling anxiety if these naïve theories are violated by unexpected experiences that involve positive behaviors, with positive implications for themselves and others. More generally, inferring agentic behavior in other entities is another core element of the *what* of reality, especially when one is attempting to gain mastery over elements of the external environment. Waytz (Chapter 7) describes the many ways that we anthropomorphize other living (and nonliving) things in order to render them familiar, and as such, have them fall within a domain of predictability and control.

Meaning: Why—A Guide for Living

While a sense of the *what* organizes our epistemic understanding of reality, a sense of the *why* directs us in how we should conduct our lives and provides explanations for the events that constitute our life story. At the outset, we tend to organize the events of our lives in terms of a progress narrative—that fundamental meaning framework that allows us to imagine

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we are flourishing (rather than declining) and that provides a path down which we will continue to grow and improve. The function of progress narratives is highlighted in Walker and Skowronski's wide-ranging account of autobiographical memory (Chapter 8)—in particular, the imposition of a progress narrative on negative events appears effective in reducing lingering anxiety, that is, the re-recalling of tragedy or failure in such a way that it lays the foundation for future success. So appealing is the progress narrative that people will actually heighten the negativity of their reflections so as sharpen the contrast with their current, improved status.

McAdams (Chapter 9) also emphasizes the importance of progress narratives when we act as authors, "storying" our own lives. Often, these narratives converge on a "redemptive self" that allows us to understand past suffering as ultimately edifying and a precondition for our eventual success. Along the way, people are understood to move through periods in which meaning comes by acting in social roles, and later, through goals that at least *feel* chosen by an "agentic self." Often, these goals are determined by the culturally determined morals described by Janoff-Bulman (Chapter 10). These prescriptions outline an ideal set of social interactions that are intended to propagate our continued "eudaimonic" flourishing. Steger (Chapter 11) also understands meaning primarily in terms of guiding our life path and offers a homeostatic view of these meaning-making and maintenance behaviors. Steger offers data that suggest there is such a thing as "enough meaning," and with regards to the meaning threat literature, in particular, "maintain or restore" accounts appear to provide the most accurate account of many of the processes described in this volume.

Meaning: Why—Explanations for Events

When unexpected misfortunes undermine our progress-oriented *whys*, we often compensate by generating other functions that may have been served by these events—*reasons* why tragedies and traumas occur. Silver and Updegraff (Chapter 12) review their program of research on the role of meaning making following personally experienced traumatic events (e.g., spinal cord injury, childhood sexual abuse, sudden loss of a loved one) and collective traumas (e.g., natural disasters, the 9/11 terrorist attacks). They discuss how both individual and collective traumatic events can stimulate a search for meaning and note that the extent to which individuals search for and find meaning in negative life events is not clearly explained by the objective circumstances surrounding the event. They address the role of meaning making in adjustment, for individuals both directly and indirectly exposed to trauma.

Continuing this theme, Park (Chapter 13) focuses her chapter on the ways that people make sense of unexpected tragedies—in this case, dealing

with a cancer diagnosis. Park makes a distinction between global meaning and situational meaning: *global meaning* consists of the core sense-making commitments we maintain for both beliefs and desires, while *situational meaning* is our online appraisal of a given experience. When there is a mismatch between our situational appraisal and our global commitments, the resulting anxiety is understood to motivate meaning-making efforts; in the face of a cancer diagnosis, religion and spirituality may serve a crucial function in restoring both the *what* and the *why* of our global sense-making assumptions. In a similar vein, Anderson, Kay, and Fitzsimons (Chapter 14) demonstrate the direct impact that unexpected negative life events may have on the perception of meaning in our lives. Anderson et al. discuss the surprising extension of these behaviors, in which even a trivial expectancy violation, such as eating unexpectedly bitter chocolate, appears to motivate efforts to perceive our life as more meaningful.

Conversely, the recollection of meaningful events serves to inoculate us against aversive meaning violations. Routledge, Sedikides, Wildschut, and Juhl (Chapter 15), highlight the vital sense-making function served by nostalgia for salient, positive past events, such that making recourse to prior meaningful experiences appears to provide a palliative effect with regards to negative life experiences. And if significant life events are made to appear random or senseless, we will compensate for this loss of meaning by asserting that these events nevertheless occurred for a reason. Both Kray, Hershfield, George, and Galinsky (Chapter 16) and Lindberg, Markman, and Choi (Chapter 17) describe the outcomes of counterfactual thinking: an awareness that our lives could have easily turned out differently. More often than not, we imagine life events as shaped by some guiding force, a “fate” that led us away from some terrible outcome, in which these reasons follow closely from the progressive narratives we imagine as guiding our lives.

RESTORING MEANING

Meaning violations can be negative or positive events: a terrorist attack (Silver and Updegraff, Chapter 12) or improved test scores (Burton and Plaks, Chapter 6). Meaning violations can be profound or trivial: a reminder of death (Arndt et al., Chapter 3) or bitter chocolate (Anderson et al., Chapter 14). But whatever meaning violations are, they appear to involve a common feature—the violation of expectation. Van den Bos (Chapter 18) highlights the role of the behavioral inhibition system in responding to violations of expectation. The “flabbergasted self” experiences anxiety—even in situations where the expectation violation is advantageous to the self. Townsend et al. (Chapter 19) track the manifestations of this anxiety, as it may follow from any given meaning violation, however trivial.

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Working from the biopsychosocial model, any given violation of expectation, however trivial, is understood to provoke a physiological threat response that in turn motivates efforts to restore meaning and reduce negative arousal. According to Tullett et al. (Chapter 20), this anxiety likely follows from general mismatches between expectation and reality, as detected by the anterior cingulate cortex, which continually compares our experiences with our understandings and goals. As with Peterson (Chapter 2), our response to meaning violation is also understood in terms of approach behaviors aimed at actively (re)constructing meaning when our understandings have been violated or our current goals rendered unattainable or irrelevant.

Of course, aversive arousal is not the only emotion associated with meaning—even meaning violation. Wilson, Ndiaye, Hahn, and Gilbert (Chapter 21) are at the forefront of efforts to explore the *positive* emotions that follow from unexpected experiences, insofar as people are able to savor the emotions that follow from positive experiences that are both unexpected and unexplainable. In a similar vein, Halusic and King (Chapter 22) present data that support the direct relationship between the perception of one's meaning in life (significance, coherence and purpose), and the experience of positive affect. Regardless of the given source of meaning (e.g., religious belief, belongingness), these experiences appear to bottleneck at an active experience of positive emotion, in addition to serving a palliate function in response to anxiety that follows from the experience of meaninglessness.

Finally, Zafirides, Markman, Proulx, and Lindberg (Chapter 23) examine how existential psychotherapy can be used to restore meaning for clients who suffer from depression and anxiety. The psychotherapist Irving Yalom (1980) identified four ultimate concerns or anxieties that, presumably, drive human behavior: death, freedom, existential isolation, and meaninglessness. According to Yalom, the principal cause of psychopathology is the interplay between stress and the individual's mechanisms of defense against it. The key to the healing process mandates an authentic and genuine consideration by the individual of their present existential place in the world. The existential approach "means to think not about the way one came to be the way one is, but *that* one is . . . the future becoming present is the primary tense of existential psychotherapy" (May & Yalom, 1995, p. 11).

MAKING SENSE OF MEANING

Insofar as anyone is able to make sense of anything, it is always done by determining a *what* and a *why*; this is just as true for efforts to make sense of sense making. There is always an account of the *what* of sense making: the mental representations that are drawn from and imposed upon our

experiences, the positive emotions that follow from constructing and validating these representations, the negative emotions that follow from the violation and dissolution of these mental representations, and the various ways that we can make sense of our experiences, along with the ways that we restore a sense of lost understanding when our expectations are violated.

There is also always a *why* account of sense making: the functional role that these understandings serve in guiding and motivating our efforts, the reward of positive feeling when we make sense of our reality or have these efforts validated, and the palliative role these understandings play in ameliorating the anxiety that follows from the violation of committed expectations. As we have tried to show over the course of this introduction, philosophers and psychologists have made sense of sense making in much the same way—and the convergence of their respective *meaning frameworks* may speak to the veracity and usefulness of their sense-making. It is our sincere hope that colleagues may treat this volume as an Archimedean Point—a solid foundation upon which they can leverage their future research efforts.

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