

Original Paper

How Epistemological Disjunctivism Aligns with Fine-Grained Belief

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Abstract

Epistemological Disjunctivism (ED), as a well-known anti-skeptical strategy, claims that in good perceptual cases, the subject's perceptual experience itself constitutes factive reasons that are sufficient to directly support the knower's knowledge. However, critics such as Ranalli (2014) have pointed out that ED's account of the role of "belief" in knowledge ascription is in fact unclear. This calls for an explanation of how perceptual experience can attain reflective accessibility in good cases; otherwise, the thesis that "experience = reason" lacks persuasiveness. To respond to this challenge, this paper proposes a "layered belief framework" to supplement the shortcomings of the original ED. I will argue that this proposal not only effectively responds to the criticisms from Ranalli and others, but also provides ED with new explanatory dimensions that bring it closer to human cognitive psychology. At the same time, I will also demonstrate that its anti-skeptical capacity can only be regarded as a local defense strategy.

Keywords

Epistemological Disjunctivism, Fine-Grained Belief, Anti-Skepticism

1. Introduction

In contemporary epistemology, the question of how to resist the threat of skepticism has always been a central issue. Traditional Moorean responses, though straightforward, find it difficult to explain the rationality behind "common-sense intuitions," while externalism, despite its emphasis on the reliability of cognitive processes, is often criticized for neglecting the subject's reflective defensibility. Against this background, Pritchard's proposal of ED has become a highly influential theoretical attempt in recent years. What makes ED distinctive is that it holds that in normal perceptual circumstances, a subject's perceptual experience is not only a factive reason but also reflectively accessible, thereby logically ruling out the skeptical possibilities.

However, ED's anti-skeptical commitment has not won unanimous recognition in the field. Stroud (1984; 2002) argued that even if we do "see" something, we may still doubt whether such perception genuinely constitutes a foundation for knowledge. In other words, even if experience is factive, it may not eliminate the radical possibilities imagined by the skeptic, thus failing to deliver the certainty demanded by skepticism. Ranalli (2014) and French (2012) together reveal that ED obscures the support path between "experience—reason—belief," failing to explain how epistemic reasons are transmitted between logic and psychology. Stuchlik (2020) further questions whether experience can genuinely satisfy the dual requirements of factivity and reflective accessibility. Collectively, these critiques expose a fundamental difficulty: ED suffers from an explanatory gap between experience, reasons, and beliefs (the problem of vagueness). Although ED provides a theoretical vision, it has not yet offered sufficiently fine-grained psychological and normative mechanisms to sustain its claims.

To address this theoretical defect, this paper introduces a series of contemporary developments concerning the fine-grained structure of belief, proposing an integrative framework that can explain how perceptual experience supports belief within the ED model. On the one hand, this framework enhances ED's explanatory flexibility when confronted with skeptical challenges; on the other hand, it also exerts pressure on ED's scope of application—particularly when ED faces more complex situations such as cognitive dissonance, perceptual penetration, and atypical belief forms. Whether ED can still maintain its theoretical extensibility and reflective stability under such conditions has undoubtedly become an unavoidable issue. Therefore, in the final part of this paper, I will reflect on ED's feasibility and limitations within the contemporary representational context, point out its potential theoretical bottlenecks, and evaluate the actual boundaries of its future development and philosophical contribution.

It should be noted, however, that the problem of vagueness is not discovered for the first time in this paper. Ranalli and others have already exposed it from different angles, and I will unify their views under the term "problem of vagueness." Upon investigation, it turns out that current responses to this problem mainly come from Shaw and Echeverri. Both attempt to defend ED either by offering more refined conceptual distinctions or by adopting a virtue-epistemological perspective. Unfortunately, they fail to distinguish the mediating structure between "ability" and "belief"—that is, the specific process by which experience functions in the formation of belief. In practice, beliefs are not automatically generated every time a subject successfully exercises a cognitive ability; they may instead be latent, unstable, and multi-layered complex structures. In this respect, past responses have been unsuccessful.

In sum, although existing theoretical proposals have provided significant support for ED in many respects, they still leave a structural gap in the crucial mechanism of how experience can support belief. This paper argues that belief should not be regarded merely as a passive product driven by experience, but rather as a dynamic structure with multiple dimensions of strength, judgment thresholds, and conditions of manifestation. Only when this multidimensional structure meets certain conditions can perceptual experience constitute a reason supportive of belief.

2. The Anti-Skeptical Commitment of Epistemological Disjunctivism

Unlike traditional Mooreanism or pure externalism, the theoretical value of ED lies primarily in its attempt to emphasize that perceptual experience in normal circumstances is simultaneously factive and reflectively accessible, thereby satisfying both external reliability and internal defensibility. This means that, if ED holds, it can not only explain how we acquire knowledge in perceptual contexts, but also effectively respond to skeptical challenges. In this section, I will carry out two tasks: first, to analyze how ED integrates the strengths of internalism and externalism while avoiding their respective limitations; and second, to explain, through Pritchard's argument and the unique advantages of ED, how the thesis that "experience as reason" rules out skeptical challenges.

We know that in traditional theories of justification (internalism and externalism), the reliability of knowledge is thought to derive either from the subject's internal beliefs themselves or from non-cognitive, reliable belief-forming processes. Against the backdrop of the Gettier problem (where justified belief does not necessarily amount to knowledge), internalism confines the justificatory element of knowledge to the notion of "justification," holding that justification lies in the subject's internal psychological safeguards and assigning epistemic responsibility to the subject. That is, only when the subject bears sufficient epistemic responsibility can his belief qualify as knowledge. The problem, however, is that if justification must begin from the individual's internal mental states, then abnormal subjects (such as children or those with cognitive impairments) will lack "justifiability," making it difficult to explain how they can nonetheless have knowledge. Since internalism cannot solve this problem, philosophers increasingly turned to externalism, which requires that we discard the restrictive idea that justification is necessary for knowledge. Because subjects' cognitive models are not internally transparent, we often cannot know whether our own beliefs are justified. On this view, the reliability of knowledge should be supported from a third-person perspective: in given circumstances, the subject's inputs and outputs must remain stable, repeatable, and modally robust, independently of the subject's internal mind. Yet the problem is: if a true belief cannot be accessed by the subject's reflective standpoint, on what grounds can we say it constitutes knowledge? Thus, externalism's lack of a first-person perspective deprives it of resources to respond to skepticism.

Pritchard argues that neither pure internalism nor pure externalism can resolve the problem. Their polarized positions even generate an anti-skeptical dilemma: internalism lacks external connection, and externalism lacks reflective accessibility; neither can provide an intuitive route to resist skepticism (Pritchard, 2016, p. 42). More specifically, Pritchard holds that we must find a theory that combines the strengths of internalism and externalism while avoiding their defects. Inspired by "metaphysical disjunctivism," he therefore proposed "epistemological disjunctivism":

In good cases, the subject possesses factive reasons R.

Reason R is reflectively accessible to the subject for understanding and recognition.

Therefore, the subject's belief in proposition P constitutes knowledge.

Pritchard particularly emphasizes that the epistemic reasons endorsed by ED are limited to the domain

of “perceptual knowledge.” In other words, he aims to cloak ED with the legitimacy of everyday knowledge, thereby preserving the authority of ordinary knowledge and ensuring that we maintain a “minimal friction with the world” rather than collapsing into a “frictionless spinning in the void.” Thus, as long as the epistemic environment and the subject’s cognitive capacities remain intact, perceptual experience can directly support higher-order beliefs and serve as factive reasons. Moreover, the subject not only possesses factive experiences but can also understand why his perceptual experience supports his beliefs. This reflective ability enables the subject to self-verify the rationality of his knowledge claims. In this way, ED’s bidirectional support model integrates the core commitments of both internalism and externalism, bridging their long-standing division. It allows perceptual experience, under appropriate conditions, to serve as a reason for belief without requiring an infinite regress in the belief network in search of epistemic foundations.

Further, by blending the strengths of internalism and externalism, ED acquires its distinctive anti-skeptical function:

First, compared with traditional Mooreanism, Pritchard’s ED exhibits a “new Moorean style.” Its novelty lies not only in emphasizing the factivity of perceptual experience but also in requiring that the subject’s perceptual experiences be reflectively accessible. That is, perceptual experience in the subject’s mental structure is not a state of “it seems so” but a fact of “it is so,” and only insofar as this fact is reflectively accessible to the subject can it serve as epistemic reason. At the same time, to prevent ED from further attacks by skeptics, Pritchard discusses whether the “Entailment Thesis” (seeing *P* entails knowing *P*) should be retained or discarded. He argues that the Entailment Thesis only commits to the claim that the subject has an “epistemic advantage” in good cases—i.e., he is in a position to know—but not that he always succeeds in acquiring knowledge. Thus, the Entailment Thesis in ED is best accepted in a “weak form.” All this shows that Pritchard’s new Mooreanism is not a mere insistence on “common-sense knowledge” but a proposal to construct a knowledge structure capable of resisting skeptical challenges. Stuchlik (2020) affirms Pritchard’s proposal, interpreting it as a moderate neo-Moorean path, one that can accommodate skeptical scenarios (without eliminating every skeptical hypothesis) while building a more reasonable justificatory structure.

Second, in Epistemic Angst, Pritchard does not deny the validity of the epistemic closure principle. Instead, through an in-depth analysis of the proposition “I know I have two hands,” he points out that in good cases the perceptual experiences we rely on are not merely psychological states or representations but factive reasons that are both reflectively accessible and factive, directly supporting the assertion “I am not a BIV” (Pritchard, 2015, p. 50). In other words, when I say “I see that I have two hands,” I am not relying on an indirect chain of evidence but on a non-mediated factive reason. I do indeed see my hands, and I know that this reason is sufficient to support my belief that “I have two hands,” and thereby, via closure, to support the assertion “I am not a BIV.” Thus, ED does not abandon the closure principle; rather, it reconstructs the concept of “reason,” altering the inferential structure presupposed by skeptics.

More importantly, through its stance of “experience as reason,” ED formally accommodates the core demands of both internalism and externalism. The factive dimension of experience provides objective epistemic security (the externalist dimension), while the reflective accessibility of experience fulfills the subject’s capacity for self-scrutiny (the internalist dimension). In this sense, ED provides an intermediary theory that bridges the two camps, offering a structurally complete anti-skeptical model of justification.

3. The Problem of Vagueness

As shown in the previous section, ED’s attraction lies in its claim to combine factivity with reflective accessibility, thereby offering a neo-Moorean route to resisting skepticism. Yet in practice, ED faces a pervasive and intractable challenge: the problem of vagueness. By this I mean that in the transformation chain of “experience $\rightarrow$ reason $\rightarrow$ belief,” ED fails to clearly specify the roles and boundaries of each stage, thereby leaving its anti-skeptical commitment without structural foundations. The purpose of this section is to systematically trace the sources and manifestations of this problem, in order to show how it constitutes a fundamental threat to ED. Specifically, I will first draw on Stroud’s skeptical critique to reveal the insufficiency of experiential reasons in terms of exclusivity and certainty; second, through Ranalli’s and French’s analyses, I will show how ED confuses logical support relations with psychological mechanisms; and finally, I will discuss Stuchlik’s critique of ED’s reason structure and reflective mechanisms, highlighting ED’s failure to explain how experience is genuinely structured into reasons that support belief. By integrating these three strands of critique, we can better grasp the theoretical root of the “problem of vagueness.”

3.1 *The Insufficiency of Exclusive Reasons*

Barry Stroud (1984) highlighted the deep structure of skepticism. He argued that the real threat of radical skepticism is not whether we actually know something, but whether we could possibly have absolutely exclusive, indefeasible reasons to conclude that we are not in skeptical scenarios such as the “brain-in-a-vat” (BIV) hypothesis (Stroud, 1984, p. 24). In other words, the core question is: if experience really can support knowledge, does its strength suffice to rule out all logically possible deceptive scenarios? For example, when facing skepticism, I may appeal to my perceptual experience (a factive reason) to say “I know I have two hands,” thereby concluding that I am not a BIV. But Stroud’s counterattack is devastating: he can ask, “How do you know that the hands you see are not simulated? Can your perceptual fact really support your knowledge that you are not deceived?” That is, even if my experience is veridical, it cannot logically distinguish whether I am in a real world or a simulated one, since from the subject’s internal perspective these experiences are indistinguishable. Thus, I cannot know which is real.

Accordingly, ED faces a serious problem in its reason structure: suppose an experiential state e is true in world w_1 and also true in world w_2 (even if w_2 is deceptive). Can e still provide factive support for belief P ? Stroud’s answer is no. In skeptical scenarios, no perceptual experience can exclude such

“experientially indistinguishable” deceptive worlds. For a reason to be adequate, it must: (1) be related to fact, (2) be reflectively accessible, and (3) exclude all logical skeptical alternatives. The original ED fails to meet the third condition. It assumes that perceptual states themselves are reasons, but fails to explain how such reasons can exclusively locate the real world rather than a deceptive one. Furthermore, Stroud points out that it is unclear whether ED’s experiential reasons can transfer from P to q (as required by the closure principle) (Stroud, 2002). This “opacity of reason transfer” constitutes the vagueness of reasons: ED assumes that experience automatically yields transferable reasons, but ignores the stronger demand of whether reasons can logically extend to their entailments. In short, the distinction between “I know” and “I think I know” collapses, and experiential reasons remain vague at the boundaries.

3.2 *The Confusion of Support Paths and Psychological Mechanisms*

Building on Stroud, Ranalli (2014) in *Luck, Propositional Perception, and the Entailment Thesis* further argues that for ED to hold, it must depend on the Entailment Thesis:

Seeing F $\rightarrow$ Knowing that F

But this presupposes that perceptual experience, as the subject’s factive reason, not only supports belief in P but also entails q, where q is derived from P. In a typical anti-skeptical argument, this structure often appears as follows:

S sees that he has two hands.

From this, S forms the belief “I have two hands.”

If I know I have two hands, then I am not a BIV.

Therefore, S knows he is not a BIV.

Ranalli challenges this inference by pointing out that ED conflates the “propositional content supported by experience” with the “entailment chain of beliefs.” Even if perceptual experience can support the belief P (“I have two hands”), this does not automatically translate into a factive reason for q (“I am not a BIV”). First, perceptual experience is typically non-propositional and must undergo cognitive processing before becoming a doxastic judgment. This involves conceptualization, belief-formation, and other complex psychological activities. Second, the entailment relations among beliefs are semantic, not necessarily equivalent to support relations. That is, while $P \rightarrow q$ holds logically, the reasons supporting P may not automatically support q. Ranalli terms this the “misreading of the Entailment Thesis”: mistaking semantic entailment for experiential support. This reveals a vagueness in ED: it cannot clearly separate the logical form of reasons from their psychological construction.

Ranalli warns that without a structural account of this transition, ED faces two paradoxes: (1) If experiential reasons only support P, then the belief “I am not a BIV” would be accorded knowledge status without being directly supported by reasons, violating ED’s core commitment to factive, reflectively accessible reasons. (2) If ED claims that experiential reasons also support q, it must explain the mediating mechanism of this transition—yet ED offers no such mechanism. Thus, ED suffers from structural vagueness in its “experience—proposition—belief” support pathway, involving a logical

leap.

French (2012) expresses a similar view: ED idealizes the relation between experience and belief while ignoring the actual cognitive mechanisms of belief-formation. He notes that if ED requires beliefs to be explicit (i.e., the subject is conscious of them and able to articulate them), then it risks collapsing into extreme intellectualism—implying, absurdly, that subjects must constantly rehearse “I am not a BIV.” But in reality, we often hold knowledge-level beliefs unconsciously, without making them explicit (e.g., I know Beijing is north of Shanghai without continuously entertaining this belief). Cognitive psychology shows that belief-explicitness involves attention, linguistic processing, and intention, and is not automatic. If ED overlooks this, it cannot explain why some experiences become knowledge-supporting beliefs while others do not.

Moreover, French highlights the tension between belief vagueness and reflective accessibility. ED requires experience to be reflectively accessible, but vague beliefs undermine this. If a belief is not explicit, the subject may not be able to identify it reflectively, thereby lacking reflective accessibility—contradicting ED’s core demand. For example, when challenged by a skeptic, if I have not explicitly formed the belief “I am not a BIV,” then even if my experience supports my judgment, it lacks the structure of reflective accessibility. ED’s commitment thus collapses.

In sum, French concludes that ED fails to distinguish between explicit and latent beliefs. Worse, ED assumes that once experience occurs, belief automatically follows, thereby short-circuiting the psychological process of knowledge-formation and reason-articulation. This ultimately causes ED to fail precisely on its central condition: reflective accessibility.

3.3 The Lack of Mechanisms for Justification Structure and Reflective Accessibility

In his article, Stuchlik (2020) points out that when Epistemological Disjunctivism (ED) responds to skepticism—especially skepticism rooted in the closure principle—it seems to rely on a “pre-constructed knowledge justification structure”: experience itself simultaneously embodies factivity and reflective accessibility, thereby enabling it to support knowledge judgments. However, Stuchlik argues that these two roles typically demand distinct psychological and semantic conditions. For example, even if I have a genuine factive perceptual experience, this does not mean I have already psychologically formed a reflective, explicit justificatory basis for belief. He contends that this requirement of ED amounts to a “hybrid justification structure”; in other words, Pritchard attempts to use a single form of experiential justification to meet the theoretical needs of both internalism and externalism, ultimately rendering the justification structure itself ambiguous.

To further expose this ambiguity, Stuchlik categorizes ED into two versions: the “Neo-Wittgensteinian” and the “Moderate Neo-Moorean”. The former, drawing on Wittgenstein’s later thought, emphasizes linguistic practice and the tracing of rules, seeking to avoid rather than directly refute skeptical attacks. Consequently, when confronting skepticism, it often adopts a “silent” stance, dismissing propositions like “I know I am not a BIV (brain-in-a-vat)” as meaningless skeptical claims. The latter, by contrast, retains the factive status of experience while acknowledging that cognitive subjects cannot fully defend

against all skeptical challenges. Thus, it attempts to respond to skepticism through "reflectively accessible justifications in good cases". Stuchlik focuses primarily on this second version of ED, noting that even though it promises factive justifications that are reflectively accessible, it fails to clearly explain how cognizers actually access these justifications.

Stuchlik's conclusion in the article is unequivocal: for ED to truly fend off skeptical attacks and sustain itself, it must provide a reflective chain connecting experience to belief, and explicitly explain how experience is structured into justifications that support belief. This is intended to fill ED's gap in accounting for psychological mechanisms—particularly the specific structures involved in the formation, maintenance, and regulation of beliefs. In short, without supplementation from the dimension of belief, ED's anti-skeptical claims will be structurally incomplete.

In summary, while the criticisms by Stroud, Ranalli/French, and Stuchlik each have their own focus, they collectively reveal a significant explanatory gap in ED between experience, belief, and justification. Questions such as whether experience possesses factivity, whether it can be transformed into reflectively accessible justifications, and whether belief plays a clearly identifiable functional role in this process remain unanswered in the existing ED framework. Therefore, to bridge this gap, we must first clarify the structural characteristics of belief itself. If belief is not a unitary, stable, binary state, but rather a fine-grained structure marked by inconsistency, probability, dynamic activation, and normativity, then we can more plausibly explain how perceptual experience is transformed into justification through different levels of belief processing—thereby meeting ED's dual requirements of factivity and reflective accessibility. In other words, only when we provide a sufficiently detailed account of belief's structure can experience no longer "directly serve as justification" in a vacuous way; instead, it can gain the capacity to support knowledge through the mediating link of belief.

In this sense, the next section will turn to contemporary research on the fine-grained structure of belief. We will systematically review the representative views of scholars such as Schwitzgebel, Staffel, Moss, Buckareff, and Williamson to construct a theoretical framework capable of filling ED's explanatory gap.

4. The Fine-Grained Structure of Belief

In the previous section, we noted that ED has an ambiguity problem across three levels—"experience-justification-belief"—in its argumentative structure, and it particularly fails to clarify the role of belief within this framework. However, recent studies have shown that belief is not the unitary, stable, and assertible mental state that traditional philosophy assumes. Instead, it is a complex, dynamic mental mechanism with a fine-grained structure. Therefore, only by clarifying the structural characteristics of belief itself can we further explore how experience can function as a justification for belief. In the following sections, this paper will review academic research on the fine-grained structure of belief over the past two decades. On this basis, it will reconstruct a multi-dimensional belief model, thereby providing a solid theoretical foundation for defending ED.

Specifically, this paper will elaborate on three dimensions: (1) the dimension of inconsistency and hierarchy; (2) the dimension of probability and strength; (3) the dimension of agency and normativity.

4.1 The Dimension of Inconsistency and Hierarchy

In "A Phenomenal, Dispositional Account of Belief" (Schwitzgebel, 2002), Eric Schwitzgebel challenges the mainstream philosophical binary classification of belief as "held or not held", and proposes an inconsistent belief model. This model argues that people's beliefs often exist in a "disrupted, vague, and fragmented" state—one that is neither a complete possession nor a complete lack of belief, but rather exhibits "locality" and "context-dependence". Through two examples—the "light switch" and "a mother's religious belief"—he points out that even if a person typically behaves in a way that supports a proposition, they may still harbor doubts about it at a deeper level. For instance, someone might assert in an academic discussion that "death is not terrifying", yet struggle to sleep due to fear of death in their private life. This seemingly contradictory phenomenon is difficult to explain under the traditional belief model, but Schwitzgebel interprets it as a manifestation of belief's "heterogeneity". In other words, the texture or structure of belief is not unitary and fixed; instead, it is a comprehensive state dynamically linked to psychological variables such as behavioral tendencies, linguistic expressions, and attentional focus. Furthermore, he argues in his article that beliefs have vague boundaries, making it impossible to definitively state whether someone "holds" a particular belief—since their attitude may exhibit different intentionalities in different contexts. Thus, belief cannot be regarded as a simple mental state directly derived from experience; rather, it is an aggregate of complex, dynamic behavioral dimensions.

4.2 The Dimension of Probability and Strength

Unlike Schwitzgebel, who focuses on the dimension of inconsistency, Julia Staffel (2013, 2019) and Sarah Moss (2018) center their attention on the "graded nature" of belief. They argue that belief is not a binary attitude of "having or not having", but a quantifiable probabilistic system.

In her article, Staffel explicitly proposes a "probabilistic belief" model (Staffel, 2013). Rooted in the Bayesian tradition but critical of traditional Bayesianism's idealized assumptions about cognizers, she instead focuses on how real-world cognizers form belief structures that are not fully consistent but rationally acceptable under conditions of limited information. She first distinguishes between two types of attitudes: credal beliefs and categorical beliefs. The former refers to a graded psychological stance toward the truth of a proposition, characterized by fine-grained belief states; the latter, by contrast, serves as a strategic tool for coarse-grained, simplified reasoning. Through a series of arguments, she explains that categorical beliefs reduce cognitive load, while credal beliefs—being sensitive to experiential support—truly reflect the fine-grained differences within belief. Second, she notes that when faced with uncertain information, we often assign a "credence level" to a belief based on criteria such as the information's reliability, source, and verifiability. She argues that the classical propositional attitude model overlooks this graduality of belief, whereas the probabilistic model better explains why we have varying degrees of trust in different propositions. In short, belief is not an either-or matter, but

a mental attitude with a gradient of credence—and this precisely constitutes the fine-grained nature of the belief structure. From this perspective, belief can be defined as a "state of incomplete certainty": a probabilistic mental state rather than a logical assertion.

In "Time-Slice Epistemology and Action under Indeterminacy" (2015), Moss further develops Staffel's probabilistic belief model. She proposes integrating "probabilistic belief" into the "semantic knowledge state" model. Specifically, she argues that beliefs in human cognitive activity are not fixed, comprehensive mental postures, but rather probabilistic values at specific moments. This "time-slice" perspective helps us better understand the dynamic, multi-level nature of belief (Moss, 2018: p27). Particularly in contexts of uncertainty, Moss emphasizes that action-related decision-making does not rely on a fixed set of beliefs, but on the probabilistic assessment and rational deployment of belief states at a given moment. The core of this theory lies in introducing "Credence" as the basic unit of belief. In other words, the belief state at each moment is a probability distribution. For example, if a doctor, based on a 70% belief, concludes that a patient is infected with virus X rather than Y, their treatment decision will be directly shaped by this probabilistic belief. However, this structural belief cannot be simplified to "I believe it is X" or "I do not believe it is X"; instead, we must acknowledge the fact that "at time t, I believe x with a probability of p". Thus, the author aims to demonstrate the fine-grained structure of belief through a multi-dimensional model.

Moss further points out that traditional epistemology treats belief as a prerequisite for knowledge, but this binary model actually hinders our understanding of how belief supports action and decision-making. Therefore, she advocates replacing "propositional knowledge" with "probabilistic knowledge" as the foundation of analysis. The advantage of this shift is clear: it better explains the mechanism of rational choice when subjects are in a state of cognitive anxiety. Even if a subject has not yet attained certain knowledge, they can still possess a "sufficient degree of belief" to justify their actions. Here, we see that Moss—like Staffel—argues that belief is neither a simple "have-or-not" state nor a necessarily explicit content. Instead, it is a mental state with an intensity gradient within the cognitive structure. Moss adds that this state has an inferential function: it can be integrated into the cognizer's decision-making framework and serve as a basis for supporting other beliefs and knowledge ascriptions. Thus, in her "time-slice model", belief is no longer a passive concept waiting to be activated by experience, but exists in a structure marked by the interplay of latent and explicit states, as well as gradual regulation.

4.3 The Dimension of Agency and Normativity

Buckareff (2011) offers a theory of belief from the perspective of action philosophy. In his article, he argues that belief is not merely a static mental attitude or a simple responsive mechanism, but a structure with "agency"—meaning that subjects can actively activate, adjust, or suppress their beliefs in different contexts.

To explain the dynamic operation of belief, Buckareff introduces the distinction between "latent beliefs" and "occurrent beliefs". He argues that latent beliefs are usually inactive and do not manifest

when there is no behavioral demand, but can be quickly transformed into occurrent beliefs upon stimulation in an action context. For example, we may not actively hold the occurrent belief that "the Earth revolves around the Sun", but this belief is immediately retrieved from latent beliefs during astronomy-related discussions. Buckareff further contends that belief is "agentive" because it can be regulated by the subject, rather than being entirely driven by experience. This agency includes not only the mechanisms for generating and maintaining beliefs, but also the integrative function of beliefs within the cognitive structure—such as how they interact with other beliefs, participate in decision-making and reasoning, and are revised in light of experience. Therefore, this agency model provides a unique dimension for understanding the fine-grained structure of belief: belief is not merely a continuum of conceptual refinement, but a combination of dynamically activated states, with fine-grained differences in its psychological processing pathways and response thresholds.

As a counterpart to the fine-grained structure of belief, the claim of a coarse-grained structure also holds theoretical value, and the two views together create a unique tension in the theory of belief structure. Timothy Williamson (2002) proposed the widely discussed "knowledge-first thesis", whose core claim is that knowledge is a fundamental mental state—rather than belief plus additional conditions (Williamson, 2002: p33). This view reverses the traditional theory of knowledge (the JTB model) and directly grants knowledge ontological priority. Regarding the relationship between belief and knowledge, Williamson argues that belief should be governed by knowledge: a person should only believe that something is true if and only if they know it is true. This is the well-known "EK principle" (evidence equals knowledge, $E=K$). Through this principle, Williamson sets a normative threshold for belief: if a subject's belief is not supported by knowledge, it is theoretically defective. For example, when the police investigate a murder case, they often initially form one or more hypotheses (beliefs), then use existing evidence and knowledge to verify these hypotheses. If the evidence and knowledge form a reasonable logical chain and support a belief, that belief is true; otherwise, it is false.

Williamson rejects the idea of graded differences in belief. As he puts it: belief is essentially an attitude of "having or not having"—one either believes or does not believe (Williamson, 2002: p99). This stance rules out probabilistic modeling of belief states or attempts to refine them into hierarchical structures. He is particularly critical of the Bayesian tradition, which takes "degree of belief" as the basic unit, arguing that it blurs the distinction between belief, prediction, and behavioral tendencies. Thus, Williamson's model largely represents the strongest defense of the coarse-grained structure of belief. His knowledge-first thesis implies that the value of belief depends on the knowledge that constitutes it; any belief not supported by knowledge has cognitive flaws. Belief is not a hierarchical or gradually changing mental state, but a binary attitude. However, proponents of the fine-grained model of belief—such as Staffel and Moss—would counter that this strictly normative view overlooks the complexity and asymmetry of actual human reasoning.

Nevertheless, from the perspective of constructive dialogue, Williamson's theory can serve as a counterpoint to the fine-grained model of belief. Precisely because Williamson dismisses the cognitive

significance of belief's graduality, the argument for the fine-grained structure becomes more compelling: it not only explains changes in belief states in real cognitive contexts but also accommodates rational action under uncertainty—thereby revising the excessive rationalism of the $E=K$ principle. Indirectly, within the ED framework, if we want to argue that "experience can serve as factive justification", we must explain how experience supports the formation of belief and enables it to constitute knowledge. If Williamson claims that "a belief is rational only if supported by knowledge", then the structure of belief must be sound. However, ED emphasizes "experience as justification" rather than "knowledge as justification", which may create tension with Williamson's theory. The fine-grained model of belief, however, can resolve this tension: experience provides sufficient probabilistic support to make a belief "approach" a state of knowledge in a specific context. This approximation may not yet constitute knowledge, but it can serve as a reasonable justification for action. Here, since belief often fails to meet the requirement of eliminating all skeptical possibilities, it has a "weak normative" structure. Precisely because it lacks factual closure, its normative requirements must be adjusted according to different contexts—this further refines ED's core claim that "experience is factive justification".

In summary, through a review of literature on the fine-grained structure of belief over the past two decades, we can identify three key dimensions required by the fine-grained model: an inconsistent and multi-level structure, probabilistic strength, and agentic regulation with normative requirements. Each of these dimensions has a specific interactive mechanism with experience, which undoubtedly lays a solid theoretical foundation for subsequent integration work.

5. Integrating the Fine-Grained Structure of Belief into Epistemological Disjunctivism

In the preceding sections, this paper has argued that for Epistemological Disjunctivism (ED) to effectively fend off skeptical attacks, it must further explain how perceptual experience supports the dual requirements of belief's factivity and reflective accessibility. To this end, we have systematically reviewed the views of relevant experts and, on this basis, extracted three key dimensions that the fine-grained model of belief must encompass: an inconsistent structure, probabilistic strength, as well as agentic regulation and normative requirements. Therefore, the primary task of this section is to integrate the aforementioned theoretical resources and reconstruct a new model that enables the fine-grained structure of belief to function within the ED framework. This aims to address doubts regarding the ambiguity problem and further advance the research on ED. Before formally elaborating on the argument, we should first clarify what kind of belief the fine-grained model of belief entails. This paper holds that such a belief must satisfy at least three specific conditions: beliefs can be triggered by experience and possess a dynamic response mechanism; beliefs have a differential response mechanism; and the belief structure must be reflectively accessible to the subject. These three conditions correspond exactly to the three dimensions of the fine-grained structure of belief. In the following, we will draw on recent theoretical resources—including Lorini's (2019) belief base model,

de Bruijn's (2024) luminosity argument, and Wang's (2025) research on belief strength and risk thresholds—to elaborate on and construct the model.

5.1 Inconsistency and the Latent-Manifest Structure

In *Rethinking Epistemic Logic with Belief Bases*, Lorini systematically proposes a multi-level belief model with "belief bases" as the basic unit. In his article, he advocates defining a subject's cognitive state in terms of sets of belief sentences rather than possible worlds. Within his theoretical construction, the belief system is divided into two fundamental levels: occurrent beliefs and latent beliefs. The former refers to propositions or justifications that can be directly cognized and accepted by the subject, forming the intuitive content of the belief base. This means the subject can directly activate them and engage in a series of reasoning activities based on them. The latter, by contrast, consists of propositions logically implied by occurrent beliefs, of which the subject is not explicitly aware. Thus, the subject needs to activate latent beliefs through deduction, reasoning, or specific contexts. Lorini argues that occurrent beliefs are the psychologically prominent units of the belief base, while latent beliefs exist as background resources. Although both belong to the belief base, the subject's reflective access to latent beliefs depends on cognitive resources and specific cognitive contexts.

We can draw extensively on Lorini's theoretical work to further divide the belief base model into three levels:

1. The core occurrent level: This includes beliefs that are currently in the subject's consciousness, can be expressed immediately, participate in the subject's cognitive reasoning, and are open to reflective evaluation.
2. The intermediate responsive level: This refers to beliefs that are not occurrent but can be quickly retrieved when situations change or attention is directed. For example, when asked "How many windows are there in your office?", the visual and memory-based beliefs evoked in response belong to this level.
3. The deep latent level: These are beliefs that are usually unconscious and can only be activated under specific backgrounds or emotional states.

By adopting Lorini's belief base model, we obtain an effective cognitive mechanism bridge for ED. First, the reflective justifications required by ED typically originate from the belief states at the core occurrent level. The reason why a subject can "know that they know" is that their beliefs have been activated from the intermediate or latent level to the core occurrent level, making them available for reflection and statement. Second, the existence of the intermediate responsive level explains how beliefs can be aroused by perceptual experiences and cognitive contexts. For instance, we do not always hold the occurrent belief that "I am not a brain-in-a-vat (BIV)"; yet, when faced with skeptical challenges, this belief is activated to the occurrent level under the stimulation of stable experiences and functions as a justification. Finally, beliefs at the latent level, as part of the long-term cognitive framework, provide background conditions for the activation of beliefs. This explains why cognizers can make intuitive judgments even when they lack explicit justifications. Therefore, the subject's

accessibility to factive justifications is not an unconditional, constant presence, but depends on cognitive levels and situational activation mechanisms. In other words, as long as beliefs are activable and meet the conditions for becoming occurrent at the appropriate time, they satisfy ED's requirement for justification accessibility.

5.2 Probability and Threshold

Can we further refine the concept of belief itself? The answer is yes. As Staffel and Moss have demonstrated earlier, belief should be regarded as a probabilistic system rather than a purely logical assertion. However, in many cases, the original version of ED seems to treat the relationship between "belief" and "factive justification" as a deterministic assertive structure. Nevertheless, in real-world situations filled with uncertainty, whether a belief is sufficient to recognize a certain perceptual experience as a factive justification often depends on its probabilistic strength. This view aligns with Wang's (2025) recent research. In his article, through extensive technical work, Wang points out that belief is a measurable psychological structure sensitive to risk. When facing cognitive risks, cognitive subjects do not hold their beliefs in a binary manner; instead, they adjust the strength and acceptability of their beliefs based on regression variables derived from a "risk-value" function. Among other findings, Wang argues that in cognitive activities, we mainly rely on two variables to dynamically adjust the acceptability of a belief: the strength of subjective belief and the contextual risk threshold. The former can be expressed as a probability value within the interval $[0, 1]$, representing the degree of certainty with which the cognizer holds that proposition P is true. The latter refers to the minimum belief strength required for a proposition to be sufficiently supported by knowledge, and its specific value depends on the context and the consequences of the subject's actions. For example, suppose my subjective probability of believing "I am not a BIV" is 0.87. In a context where this proposition only needs to reach a probability of 0.85 to counter skepticism, this belief can be regarded as a qualified belief supported by knowledge. Conversely, if the context is a high-risk one—such as medical diagnosis—where the required belief strength must reach 0.99 to constitute a qualified belief, then my belief with a probability strength of only 0.87 is unqualified and cannot be supported by knowledge.

At this point, we can attempt to integrate Wang's belief model into the theoretical framework of ED: First, ED must clearly distinguish between the strength of a belief and the factive status of a justification. ED is often criticized for equating "I see that I have two hands" with "I know that I am not a BIV". In reality, however, the subject's degree of certainty in their perceptual experience varies in strength. Wang's probabilistic model can serve as a specific bridge for this transformation mechanism—only when the strength of the subject's belief exceeds a reasonable threshold can the belief effectively "receive" the factive justification conferred by experience; otherwise, this process fails.

Second, ED's core requirements are valid in a specific context if and only if the proposition in question is situated in a low-risk context. For example, Wang argues that the perceptual proposition "I see that I have two hands" is safe in general contexts, and the required belief strength is easily achievable. Hence,

we have no need to question it in daily situations.

Finally, if ED chooses to confront skeptical contexts—especially high-risk ones—it can emphasize that as long as the subject's subjective belief strength remains stable within a reasonable probability range and sufficiently exceeds the high-risk threshold in the skeptical context, we can reasonably reject skeptical hypotheses. By reconstructing ED's probabilistic framework, we further clarify its criteria for reflective accessibility: the subject not only holds a proposition occurrently but also holds it with a sufficient probability strength in the current context, thereby forming a reflective justification.

Furthermore, Wang's research findings also echo Lorini's theoretical claim regarding the "inconsistent structure". Specifically, the activation of a belief from a latent state to an occurrent state is still insufficient to ensure that it can be supported by knowledge—unless the belief meets the probabilistic strength required by the reasonable risk threshold of the context. This, in turn, provides a cognitive and context-sensitive explanatory framework for ED's continuous transformation mechanism regarding "experience-justification-belief".

5.3 Agentive Regulation

We know that one of ED's core appeals lies in its preservation of the epistemological status of the subject's "reflective ability", avoiding the "blindness" trap of externalism. However, this requirement for reflectivity implicitly harbors a problematic assumption: when a subject is in an experiential state, they should also possess the ability to access, identify, and regulate that state. In other words, ED requires the subject to have the active control ability to make beliefs occurrent and structurally adjust them. The problem, however, is that this assumption easily leads to a dilemma commonly faced by empiricist epistemologies—are experiential states always knowable to the subject? If not, how can the subject's knowledge judgments be valid? As a result, ED seems to struggle to answer the following question: when experience fails to be explicitly transformed into a structured belief, can it still constitute a justification for knowledge? The core of this question lies in the explanatory gap within the dimension of agentive regulation.

Bruijn (2024) draws on Williamson's luminosity argument to question ED's mechanism of "justification occurrentization". The so-called luminosity argument states: If you are in a certain mental state, then you must know that you are in that state (Williamson, 2002: p95). Later, however, Williamson refuted the luminosity argument using the gradual case of "being cold to not being cold". This case shows that if a certain mental state is luminous (transparent), then the subject would know that the state is still accessible at every moment before it ceases to exist. Yet, because the change at each moment is so minimal that the subject cannot perceive it, the subject cannot detect when the state will no longer be accessible—and thus, the mental state is not luminous (Williamson, 2002: pp99-101). Bruijn extends this view to ED and puts forward the following reasoning:

- If ED requires the subject to always be able to "reflectively access the mental state" whenever "the experiential state exists", this is equivalent to claiming that the experiential state is "luminous".
- In reality, however, many perceptual experiences are in a "borderline state".

- Subjects often struggle to determine whether an experience meets the threshold for constituting knowledge, leading to delays, ambiguities, or interruptions in the formation of beliefs.
- Therefore, under its presupposition that "experience = justification", ED overlooks the issue of cognitive agency in belief formation and regulation, making it unable to explain why subjects sometimes have experiences but cannot claim "to know".

Bruijn reveals that a cognizer's control over their mental states is not an automatic process, but rather a "competence-based" process dependent on attention, recognition ability, and contextual deployment. This is precisely why we should introduce "agentive regulation" when reconstructing ED's theoretical model.

To address ED's difficulties in its reflective mechanism, we need to integrate Bruijn's insights and propose a specific agentive regulation mechanism, thereby more clearly explaining the explanatory gap between experience and justification. Specifically, agentive regulation can be regarded as consisting of three core mechanisms:

1. Attention deployment: Whether an individual focuses their attention on a specific experiential content determines whether the experiential state can enter the structure of reflective accessibility.
2. Recognition judgment: This refers to whether an individual can identify a perceptual experience as a reliable and applicable cognitive justification, which constitutes the "validity" prerequisite for a justification.
3. Threshold adjustment: This aims to explain whether an individual has a mechanism for setting the threshold of "whether something is worth believing", which can address the dilemma of identifying "borderline experiences" raised by Bruijn.

These three mechanisms collectively constitute the active control process required for transforming experience into justification. In other words, within the agentive regulation mechanism, the cognitive subject is not a passive recipient of experiences, but an active constructor who can integrate experiences into beliefs through active psychological processing.

We can now formulate the agentive regulation mechanism as the following reasoning structure:

- If a perceptual experience is to constitute a justification for knowledge, this mental state must be reflectively accessible to the cognitive subject.
- Whether a perceptual experience is reflectively accessible depends on whether the subject can deploy their attention, complete the recognition process, and proactively set the threshold.
- Therefore, a perceptual experience can only constitute the knowledge justification required by ED after the subject completes the agentive regulation mechanism.

It follows that ED should not rely solely on the static identity assumption of "experience = justification", but instead incorporate a dynamic, agentive control explanatory model. This further strengthens ED's anti-skeptical claims: cognizers can verify whether their experiential states are reasonably acceptable through practical competence operations, rather than blindly falling into the skeptical chain of "whether I know that I know", thereby effectively blocking the infinite skepticism

directed at ED's foundational basis for counterarguments.

5.4 Dual Norms of Knowledge and Action

Regarding reflective accessibility, we can identify yet another question: What exactly constitutes "being reflectively accessible"? If a subject merely becomes aware of the existence of a certain perceptual experience at the psychological level, does that directly mean they can use it as a justification for their belief? Or, to put it another way, does the subject bear a certain normative obligation for the formation, maintenance, and revision of their beliefs? Additionally, does the "good case" referred to by ED implicitly contain a certain deontic structure rather than being a purely factual structure? These questions clearly go beyond the explanatory framework of the original ED. If they cannot be addressed directly, ED will fall into a double blind spot: lacking both external factivity and internal justification. To resolve this issue, the fine-grained model of belief must fully incorporate the "normative dimension".

We can first explore this issue from the perspective of recent "responsibilist epistemology". The core view of responsibilist epistemology is that cognitive responsibility is a comprehensive manifestation of an individual's ability and obligation to form and maintain beliefs in accordance with certain normative requirements while pursuing cognitive goals (Gerken, 2020). From this perspective, "knowing" is not only the subject's correct ascription of facts but also the legitimate attribution of responsibility for their own cognitive actions. This corresponds logically to the "reflective accessibility" in ED, as shown in the following table:

Table 1. The Defence Structure and Responsibility Attribution of ED

Dimension	Requirements of ED	Interpretation from Responsibilist Epistemology
Justificatory Structure of Belief	Experience serves as a factive and reflectively accessible justification.	The subject bears the normative responsibility for the acceptability of their experiential justifications.
Ascription of Belief	The subject must "be able to know that they know".	The subject bears the normative responsibility for the rationality of their beliefs in a given context.
Countering Skepticism	The justification of a belief needs to resist the skeptical dilemma of "we might be misled".	The normative structure of belief ensures the subject's belief that "we ought to believe in this way".

From the above table, we can draw a conclusion: If ED cannot regard the occurrentization of justifications as a normative attribution mechanism, it will be unable to maintain the theoretical tension of its anti-skeptical claims.

We must now consider the question: What is the standard for the attribution of belief? If we hold that a belief can only realize its functions or attributes when expressed, then we can regard belief as a public commitment to providing justifications to others, rather than a purely private mental state. This point is extremely crucial, for although ED emphasizes reflective accessibility, it fails to clarify whether this accessibility holds in "social interactive practices". If a subject cannot cognitively explain why their experience is trustworthy, then the judgment "I know P" lacks social verifiability, thereby consigning ED to a predicament of subjective isolation. This clearly undermines the argumentative power of ED in resisting skepticism.

In summary, we can regard normative requirements as one of the necessary conditions for the fine-grained structure of belief. Its specific operational mechanism can be divided into three levels:

1. Internal individual responsibility: This requires the subject to reasonably control the formation of their beliefs, which determines whether ED can transform experience into a justification that ought to be believed.
2. Social accountability: This refers to whether the subject can defend their beliefs as public justifications, which determines the verifiability of justifications and the social nature of knowledge.
3. Embedding of cognitive norms: This refers to whether the subject abides by the internal norms for forming beliefs and the obligations of justification, which determines whether a belief possesses the "rationality and durability" required for recognition.

Based on this, we can conclude that if the fine-grained nature of a belief cannot be attributed through normative mechanisms, its "refinement", even if it exists, will not qualify as a "justification supporting knowledge". In other words, normative constraints serve as the ultimate criterion for determining whether the fine-grained structure of a belief ultimately attains "epistemic status".

6. Rethinking the Scope of Application and Anti-Skeptical Capacity of Epistemological Disjunctivism

In the sections above, this paper has proposed a specific multi-level model of belief. This model can be regarded as the core framework for the expanded optimization of Epistemological Disjunctivism (ED). On this basis, the optimized ED no longer conceives of the subject's belief state as a 点状 structure of "factive justifications with reflective accessibility", but rather as a dynamic system underpinned by the subject's active regulatory and hierarchical support mechanisms. For example, when dealing with cases involving others' testimony, we only need to retrieve a hierarchical structure of belief support (such as background assumptions, the source of the testimony, and memory confirmation), and conduct reasonable regulation and examination of it, to meet the requirements of reflective justification.

This theoretical reconstruction significantly expands the scope of application of ED. In the original

version of ED, the legitimacy of knowledge judgments was confined to scenarios of direct experience; in the revised ED, by introducing the latent-manifest structure, memorial knowledge and testimonial knowledge gain potential forms of reflective support. Furthermore, the integration of the probabilistic strength dimension of belief allows ED to more easily handle belief scenarios involving vague intermediate states—scenarios that were difficult to incorporate into the "knowledge" framework in the original ED, but for which the revised ED can provide a corresponding explanatory pathway. In addition, the agentive regulation mechanism particularly strengthens ED's explanatory power in skeptical contexts: the subject is not merely a passive recipient of belief states, but an active regulator and maintainer of their belief network. For instance, when faced with skeptics' challenges to hypothetical scenarios, the subject can enhance their grasp of the justification for their beliefs by adjusting the probabilistic strength of their beliefs, comparing evidence, or reconstructing structures. This kind of "dynamic self-correction" mechanism is clearly beyond the reach of the original ED.

In terms of anti-skeptical significance, the revised ED demonstrates greater resilience and adaptability than the original version:

First, with the introduction of the probabilistic strength of belief, it overcomes the "all-or-nothing" logic of the original ED. It allows the subject to hold a proposition with "high credibility" in uncertain situations, thereby resisting skeptical attacks.

Second, the multi-level nature of the fine-grained belief model endows ED with a kind of "flexible reflectivity"—the subject does not need to grasp all supporting elements at the same time; as long as they can identify and activate the key nodes in their belief structure, and transform the required beliefs from a latent state to an occurrent state, they can form reflective justification sufficient to resist skepticism.

Finally, in the context of higher-order skepticism, the revised ED no longer relies on direct confirmation of the belief state itself, but constructs a defensive mechanism based on the "cognitively responsible access structure". For example, if the subject can reasonably fulfill cognitive responsibilities such as evidence examination and background consistency checking, then even if they cannot confirm that they "know that they know", their belief state can still be considered to have a certain anti-skeptical foundation. This undoubtedly significantly enhances ED's ability to resist skepticism.

However, although the revised ED expands the scope of application of the original ED, it also exposes new theoretical limitations:

First, extremely indirect knowledge will still constitute a bottleneck—for example, highly abstract theoretical knowledge or end propositions in multi-step reasoning chains. In such scenarios, the support structure for the beliefs held by the subject often goes far beyond the scope of reflective accessibility. Even if the probabilistic strength of belief and the agentive regulation mechanism are introduced into the fine-grained belief model, it is still difficult to truly reconstruct reflective accessibility.

Second, when the subject is in a cognitive context with a highly opaque social structure (such as

algorithmic recommendations, deepfake information, and anonymous testimony), the regulatory requirements that ED imposes on the support structure may not be satisfied. This is not only due to the inaccessibility of evidential information, but also because the social nature of the support structure itself imposes restrictions on reflective control. In addition, in situations where the subject's cognitive abilities are limited (such as cognitive impairment or hallucinatory states) or the belief itself is non-propositional (such as procedural knowledge), ED also struggles to provide a consistent explanation.

In conclusion, after the structural optimization of the fine-grained belief model, ED has indeed significantly improved its theoretical breadth and anti-skeptical capacity. From a theoretical structure originally applicable only to direct perceptual knowledge, it has been expanded to cover indirect cognitive forms such as memory, testimony, and reasoning. The revised ED thus demonstrates a more open, agential, and responsibility-inclusive epistemological stance. However, in reality, it cannot become an all-encompassing knowledge explanation system; its theoretical boundaries are still constrained by the structural accessibility of the belief system and the feasibility of the subject's regulatory capabilities.

Conclusion

To sum up, by introducing the fine-grained structure of belief, this paper has systematically reconstructed and theoretically expanded Epistemological Disjunctivism. While preserving its core anti-skeptical commitments, we have proposed an optimized version with greater explanatory power and a broader scope of application. This version enables ED not only to counter radical skeptical challenges, but also to encompass more complex multi-dimensional belief states. This reconstruction not only reveals the theoretical limitations of the original Epistemological Disjunctivism, but also shows that Epistemological Disjunctivism still possesses sustained theoretical vitality and innovative potential when confronting contemporary representational issues and practical rationality requirements.

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