

# Has the Humean Problem been Solved?—A Review of the Humean Problem and Its Solutions

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**Abstract:** As Heidegger proposed in 'Being and Time', the problem of existence 'not only claims that questioning the meaning of existence is superfluous, but also acknowledges the delay of this problem'. Hume also doubted the most fundamental concepts in people's ideas. He believed that all reasoning about causality comes from people's constant association with experience, and this questioning of the necessity of causal relationships further led to questioning the rationality of induction. This questioning of the law of causality fundamentally shook the foundation of philosophy, metaphysics, and natural science. Many philosophers after Hume have tried to answer this question, but there are imperfections and deficiencies in them.

**Keywords:** Humean problem; necessity of causality; uniformity of nature

## 1. Introduction

The Humean Problem has always been a crucial proposition in the history of modern and contemporary philosophy. Since David Hume raised his inquiries into causal necessity, scientists have found themselves unable to comfortably recline upon the edifice of natural science to conduct their research and enjoy the fruits of their labor. This edifice, considered the most solid foundation since antiquity, the self-evident law of causality, might be more fragile than anticipated – a mere push might fracture it, and the entire structure could come crashing down.

Hume contended that all human knowledge originates from experience. He proposed that the experiences we deem to exhibit causal connections and the knowledge derived from them might lack any inherent necessity and universality.<sup>[1]</sup> They could merely result from habitual mental associations, arbitrary in nature. Confronted with such a formidable challenge, philosophers devised various strategies in attempts to address this problem. However, as Russell aptly put it, 'It is easy to refute, and equally easy to accept.' The result has been akin to issuing a challenge to philosophers, and from my perspective, they have not yet encountered a worthy adversary.

Decades have elapsed, making a renewed examination of the Humean Problem and a reevaluation of the paths to its resolution a necessary endeavor.

## 2. The Formulation and Significance of the Humean Problem

Before Hume's time, philosophers commonly held an implicit principle in philosophy: 'Everything that begins to exist must have a cause of its existence.' This principle was generally regarded as self-evident. When people employed this principle to make further inferences and conclusions, no explicit proof was needed, nor was any argument for the principle required. However, does this principle truly lack any problematic aspects? Hume raised doubts about it.

Hume's skepticism centered around the concept of causality and its underlying assumptions. He questioned the idea that there is an inherent necessity between cause and effect, as well as the assumption that events must have a cause. Hume's critique illuminated the potential flaws in the seemingly straightforward principle.<sup>[2]</sup> He argued that our belief in causality and the principle of necessary connection is not grounded in reason but rather in our psychological tendencies to associate events based on observed regularities.

Hume's challenge to this traditional principle has far-reaching implications. It prompts us to reevaluate the nature of causation, the reliability of induction, and the foundations of our knowledge. The

Humean Problem highlights the limitations of our understanding and calls into question the certainty of claims that were previously considered self-evident.

In essence, Hume's skepticism challenges the unquestioned acceptance of the principle that 'everything that begins to exist must have a cause.' His critical examination of causality and induction revolutionized the philosophical landscape, inspiring ongoing discussions and debates that continue to shape the field of philosophy.

### ***2.1. Hume's skepticism of the causality problem***

After examining the problem of causality, Hume proposed three fundamental conditions for the establishment of our concept of causation. First, there must be a close temporal and spatial relationship between the cause and the effect. Second, there must be a succession of cause and effect in time, with the cause preceding the effect. The third, and most crucial, condition is that there is a necessary connection to be considered. What is this necessary connection? According to Hume, the nature of this necessary connection cannot be obtained through direct observation; it requires an indirect approach. In his work 'A Treatise of Human Nature,' Hume presented two questions about the necessity of causation. He believed that answering these questions could elucidate the nature of causal necessity. The two questions are as follows:

"First, what reason do we have to assert that every new existence also has a cause?"

"Second, why do we assert that certain specific causes will inevitably lead to certain specific effects? What is the nature of the inference in our reasoning about cause and effect, and what is the nature of the belief we hold about such inferences?"

For Hume, understanding the first question is a prerequisite for solving the second question. The answer to the second question can also demonstrate the conclusion of the first question. The ultimate proof for both of these questions rests on the same philosophical foundation. The first question pertains to the necessity of causal relations. This is the first layer of the problem, asserting that whatever we experience always has a cause, and nothing exists without a cause.

Returning to the beginning of this section, people persisted in believing that this proposition was based on intuition and reason, so the first principle had an unquestionable certainty.<sup>[3]</sup> However, after examining five proofs of this proposition at the time, Hume systematically refuted each one: the 'proof from intuitive certainty,' 'Hobbes' proof based on the concepts of time and space,' 'Clarke's proof based on things not originating from themselves,' 'Locke's proof based on things not originating from nothing,' and 'Locke's proof based on the implication relationship between cause and effect concepts.'

Since causality can only be explained through experience, and as Hume stated, experiences are fundamentally particular and do not provide universals, using experience to explain the universal necessity of causality is "inconvenient." Consequently, Hume transformed the question of how to explain 'everything that begins to exist must have a cause' into 'why must specific causes have specific effects?' and 'why do specific causal inferences and beliefs form?' He transitioned from the first question to the second question, believing that the explanation for the latter would also apply to the former.

### ***2.2. Skepticism of the uniformity of nature.***

However, what needs to be clarified is whether Hume's discussion of the second question is indeed about the problem of induction. Within this lies a crucial implicit concept—the Principle of Uniformity of Nature.

Firstly, the kind of reasoning Hume referred to, such as 'many arguments based on causation go beyond probabilistic inference and can be seen as stronger evidence. If someone were to say that the sun will rise tomorrow or that everyone will die, these would be merely probable events, and our evidence for them clearly doesn't go beyond the scope of experience.' Hume treated statements like 'the sun will rise tomorrow' and 'everyone will die' as conclusions derived from causal reasoning, yet he did not specify which is the cause and which is the effect in these reasonings.<sup>[4]</sup> In fact, neither of these conclusions is the result of causal reasoning; rather, they are conclusions of induction. Why did Hume create this confusion? It's because he saw causal reasoning as grounded in experience, and conclusions like 'the sun will rise tomorrow' and 'everyone will die' also come from past experience. What concerned Hume deeply was how to derive a notion of universal necessity from experience.

Secondly, when reasoning about these kinds of questions, an issue inevitably arises: 'All causal

reasoning is based on experience, and all experiential reasoning is based on the assumption that the processes of nature will continue uniformly.' Or, from a physical perspective, how can we ensure the uniformity of physical laws throughout the universe? Hume believed that if the principle of the uniformity of nature is unreliable, then proofs of causal inferences based on this principle will also be unreliable. Thus, for the first time, Hume revealed the implicit premise of the principle of uniformity of nature, an assumption that was previously considered self-evident or taken for granted in all causal reasoning, and he cast doubt on its reliability.

Hume offered three aspects of proof to demonstrate the nonexistence of the uniformity of nature. First, in terms of pure conceptual relations, the opposite of the uniformity of nature is possible. 'We can at least conceive that the course of nature might change, which is sufficient to prove that such a change is not absolutely impossible.' This notion does not entail any logical contradiction.

Second, inferences based on probabilistic reasoning from experience cannot prove the uniformity of nature. Our experience cannot prove that nature will inevitably continue uniformly, or that events in the future will necessarily resemble those in the past, because such reasoning is all based on the assumption of uniformity, and one principle cannot be both its cause and its result.

Third, even 'the capacity contained in past generation' cannot prove the uniformity of nature. People might argue for the uniformity of nature in the following way: 'After having experienced the constant conjunction of certain objects, we reason in the following manner. Such an object is always found to produce another object. If it weren't endowed with the power of production, it wouldn't be able to bring about this result.<sup>[5]</sup> Power necessarily entails the result; therefore, based on the existence of one object, we infer the presence of its usual companion object, which has a valid foundation.' In this argument, a cause implies a capacity, and this capacity implies a result. Therefore, if a certain capacity in the past could produce a certain result, a similar capacity in the future will undoubtedly produce a similar result. However, this argument is just a variation that combines the viewpoints refuted by proofs one and two, and it cannot prove uniformity.

Therefore, Hume believed that the uniformity of nature lacked a rational basis. He stated, 'Not only can our reason not help us discover the ultimate connection between cause and effect, but even after experience points out their constant conjunction, we still cannot make ourselves believe, by our own reason alone, why we extend that experience beyond those specific cases we have observed.' Hence, he concluded, 'We only assume, but can never prove, that the objects we have experienced will necessarily resemble objects we have not yet discovered.' In other words, he regarded the uniformity of nature as a mere assumption.

So, where does the notion of the self-evident uniformity of nature come from in people's minds? Hume attributes it to 'habit.' Since Hume had already shown that the uniformity of nature lacked a rational foundation, he then attributed causal inference to a habit or a principle of association. He stated that when we infer the existence of one object from the existence of other objects, there must always be some object present in memory or sense perception as the basis for our reasoning, as the mind cannot continue its inference endlessly. Reason can never convince us that the existence of one object implies the existence of another, so when we transition from the impression of one object to the concept or belief of another object, it's not determined by reason but by the principle of habit or association.

### **3. Several explanatory paths and existing problems**

#### ***3.1. Kant's response to the causality problem.***

When discussing answers to the Humean problem, the most important and unavoidable response to consider is Immanuel Kant's solution to the problem of causality. Kant addressed the issue of universal necessity in causation by explicating the a priori nature of the category of causality. He then extended this to elucidate various a priori categories within human intellectual structures.<sup>[6]</sup> Kant transformed the Humean problem into a problem of the origin of concepts and a priori thought in reason. Once this problem was solved, knowledge acquired a universal necessity, the foundation of natural science was securely established, and metaphysics grounded in reason could be built.

Kant creatively reversed the previous epistemology of 'concepts conform to objects' to 'objects conform to concepts,' asserting that it is possible for objects constructed by our cognition to conform to our concepts. The a priori cognitive structure is at work when we begin experiencing, regulating what we experience to such an extent that things must be presented to us in this way, and we are compelled to

view them in this manner. Additionally, Kant included the concept of causality within his newly created system of a priori synthetic knowledge. Such knowledge possesses inherent truthfulness independent of experience, which Kant referred to as 'although knowledge begins with experience, it does not originate solely from experience.

So, did Kant solve the Humean problem? I believe that Kant did not completely solve the Humean problem. Firstly, while Kant did offer a reasonable interpretation of the universal necessity of the concept of causality by attributing it to a priori synthetic knowledge, his answer to the first question does not equate to solving the second question in the Humean problem: how specific causes necessitate specific effects. If we follow Kant's statement, 'according to the temporal succession principle of causality, all changes occur in accordance with the laws of causal connections,' and all successive phenomena in time are merely changes, our understanding of change is based on the regularity of causation, and thus, change becomes a matter of causality. Consequently, stating that a change from one state to another and the origin of a state from another state become the same thing. Here, 'change' and 'occurrence' both imply a certain order, that is, a causal relationship. As Arthur Schopenhauer said, 'Hume claims that all consequences are merely a pure sequence, while Kant asserts that all sequences must necessarily be consequences.

### ***3.2. Carl Hempel's Statistical Explanation of Laws***

Carl Hempel introduced the concept of 'statistical laws' to understand causality, wherein causality no longer refers to how a cause necessarily leads to an effect, but rather to the extent of the possibility that a cause produces a certain outcome. Causality no longer implies necessity but becomes a matter of contingency with a certain probability.

However, can this approach truly solve the problem? As already explicitly pointed out by Schlick in 'General Epistemology,' probabilities neither provide support for induction nor refute it. The commonly understood probability of rolling a six on a die, for instance, means one-sixth. Typically, the explanation given is that in a series of dice rolls, the more rolls there are, the closer the frequency of each face appearing will be to one-sixth of the total number of rolls. Yet, this formulation is not rigorous, as 'more' is a relative concept, and in practice, it is impossible to provide an infinite number of events.<sup>[7]</sup> Resorting to limits does not aid us. From an epistemological standpoint, probability lacks real significance. Stating that the probability of one side of a die landing face up is one-sixth or that 'tomorrow the sun is very likely to rise in the east' provides little practical predictive meaning beyond offering a certain psychological comfort.

### ***3.3. John Norton's Essential Induction***

John Norton proposed an induction theory without universal patterns, rejecting previous induction systems with overarching rules. He championed the slogans 'all induction is local' and 'there are no universally applicable induction rules.' In his view, inductive reasoning gains its reliability from the facts of scientific practice, and these facts constitute the 'essence' of induction.

Norton highlighted that the reason past solutions to the Humean problem have been ineffective is that they all worked in the opposite direction. All solutions held an assumption: inductive reasoning is governed by universal rules, and effective inductive reasoning conforms to these universally applicable patterns. Norton found a breakthrough here to resolve the Humean problem. He argued that if we discard this assumption, the problem itself dissolves. By relinquishing the assumption of universal patterns, we must turn away from formal induction theories that contain such patterns and move towards essential induction theories. In formal induction theories, any induction reasoning consistent with the universal pattern is considered valid. In essential induction theories, the validity of induction reasoning is guaranteed by facts. The 'in cases like these' facts safeguard the 'in cases like these' induction reasoning, and the essential induction theory defends it based on these facts. In this theory, the acceptability of induction ultimately traces back to a factual matter, not a universal pattern. According to this theory, all inductive reasoning is safeguarded by facts. Since these facts are contingent, there is no universal effectiveness. Thus, there are no universally applicable systems of inductive logic. Each system is effective only within a limited domain, where the guaranteed facts are accurate.

However, the essential induction theory also cannot entirely avoid the problem of infinite regress. Okasha pointed out that 'Norton's attempt to prove that regress is not infinite is not particularly convincing. Norton claims that a chain of defenses may terminate in original experiential facts that do not require further defense.'<sup>[8]</sup> But if this is the case, it is difficult to see what motivates this claim, namely

that every inductive inference requires some sort of essential or other permission. In fact, the notion of 'original experiential facts' may terminate the regress of defenses, which amounts to denying this claim. The inference from observed to unobserved conclusions always requires additional empirical assumptions, and 'original experiential facts' cannot support unobserved conclusions about themselves; this is impossible.' Okasha aimed his criticism at the concept of 'original experiential facts,' questioning whether such 'facts' exist. It's absurd that as experiential facts, they can serve as the valid basis for conclusions without self-justification.

#### 4. Conclusion

Besides the various explanatory paths mentioned above regarding the Humean problem, there are numerous philosophers who have attempted to provide reasonable solutions to it. For instance, contemporary analytic philosophy has attempted to address specific causal relation issues from a semantic analysis perspective. However, even with the multitude of solutions presented, can we truly consider the Humean problem to be resolved? I believe there is still ample room for discussion. In Kant's answer to Hume's question, although he solved the problem of the universal explanatory power of knowledge to objective things by repairing the relationship between objects and ideas and making the objects conform to ideas, the second part of Hume's question, that is, the causal correlation in a specific situation, Kant believes that our understanding of the causal relationship between things comes from the guarantee of the law of causation, but why do things that happen successively in time also happen successively in causation? Kant did not give an effective answer to how to derive specific results from specific causes. As for Carnap's expectation of using mathematical statistical laws to solve the problem of causation, it cannot escape the trap of induction validity, because induction can only make a summary of things that have already happened, and cannot be a guarantee of the regularity of causation. And NORTON's substantial induction cannot completely avoid the problem of infinite regression, his so-called "original factual experience" as experience itself cannot be used as an effective basis for conclusions without self-proof.

Delving into the Humean problem contributes to our deeper understanding of fundamental concepts and ourselves, much like the meaning of existence. Those things deeply rooted in our minds as 'common sense' are precisely where philosophy truly needs to unearth insights.

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