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Analytical Table of Contents

1 Hume's Two Theories of Causation 3

Hume offers two definitions of causation. One definition emphasizes regularity of connection, while the other incorporates necessary connection. Which definition reflects Hume's true theory of causation and whether the two can be rendered consistent are controversial issues.

- I Hume's two definitions are motivated by different aims. 6
The first reflects a desire to account for the genesis of causal beliefs (including the belief in necessity), and the second constitutes a reductionist description of the truth conditions of causal statements.
- II Antony Flew maintains that Hume banishes the notion of necessity from his definitions, but the text reveals several ways in which necessity is retained. 11
- III J. A. Robinson has argued that the two definitions are neither intensionally nor extensionally equivalent, and that the first represents Hume's true theory of causation. There are at least five textually based reasons for judging this interpretation inadequate. 13
- IV Hume's reductionist and genetic interests explain his joint commitment to both definitions. Whether or not they are incompatible, Hume is committed to two different theories of causation. 18
- V In addition to the evidence cited by Robinson, other grounds support the interpretation that Hume holds a pure regularity theory. 21
- VI Equally strong textual grounds exist for the converse view that Hume's regularity theory is reducible to his necessity theory. 25
- VII Hume's theory of meaning further suggests that he is committed to both definitions, and to their compatibility. The 28

text provides no basis on which to judge either of the two definitions deeper or more important, for both are correct and primary.

- VIII In light of these considerations, Hume holds two different theories of causation; but a unified treatment faithful to Hume's intentions can be constructed. 31

2 Causal and Inductive Scepticism 33

Much of the rationale for attributing both a pure regularity theory and a causal scepticism to Hume rests on the conventional view that he is a sceptic about induction. This conventional interpretation cannot be supported.

- I Hume is not a sceptic about the existence of causal relations, although he does question both common and rationalistic beliefs about causation. 33
- II The conventional view that Hume is an inductive sceptic is instanced in the writings of Will, Kneale, Popper, Stove, Penelhum, and Bennett, whose common themes are expressed by two separate arguments. Yet the problem of induction, as currently conceived, is not raised in Hume's philosophy. 36
- III Hume's treatment of induction is an attempt to refute the rationalist belief that at least some inductive arguments are demonstrative. Mistakes about Hume's intentions turn on a failure to grasp how he employs the concept of reason. 41
- IV Hume provides criteria by which to distinguish justified from unjustified inductive arguments. His appeal to these criteria is compatible with his psychological thesis that all factual beliefs are based on instinct or custom. 52
- V Norman Kemp Smith's naturalistic interpretation and Barry Stroud's extension of it only superficially agree with this line of argument. They regard Hume as sceptical about induction and present strained interpretations of his views on custom, causal inference, feeling, belief, and reason. 57
- VI D. C. Stove claims that on Hume's view inductive arguments do not even render their conclusions probable. His argument rests on doubtful textual construals, as does Mackie's similar interpretation. 67
- VII Hume's views on induction are consistent with several contemporary attempts to solve the problem of induction, such as those offered by P. F. Strawson and Hans Reichenbach. 75
- VIII Our interpretation explains why Hume takes up inductive inference when discussing causal necessity. It also underscores the constructive side of his approach to causation. 79

3 Causal Laws and Causal Instances 80

Hume's theory of causation represents in the history of philosophy a shift from concern with singular statements about causal relations to an interest in causal generalizations or laws.

- I Hume denies the primacy of particular causal sequences, as contrasted with causal laws. This approach can withstand contemporary criticism, such as that due to G. E. M. Anscombe. 81
- II Four criteria for laws of nature are present in Hume's writings, and each is echoed in contemporary treatments of the subject. 84
- III Hume's criteria for causal laws face two immediate problems: plural causes and ultimate causes. Objections based on these problems—such as those advanced by C. J. Ducasse and John Passmore—reflect misunderstandings of Hume's position. 88
- IV Hume's claim that singular causal statements are true only if they instantiate a causal generalization is best understood in terms of Donald Davidson's theory that singular causal statements do not entail any particular law but do entail that there is some law instanced by the sequences they report. 93
- V The Davidson interpretation enables Humeans to counter claims that some singular causal statements are true even when no regularity is instanced. Fred Dretske and Aaron Snyder argue for this form of causal irregularity, but their conclusion cannot be sustained. 97
- VI Ducasse's argument for the primacy of singular causal relations also fails to refute the Humean view of implicit generality. 105
- VII Hume allows that causal judgments are possible in single cases, thus apparently substantiating Ducasse's criticism. Hume's position is not inconsistent, however, when his views on causal circumstances and analogical reasoning are appreciated. 112
- VIII Hume's treatment of single causes and causal laws has also been attacked by Richard Taylor, on grounds that it fails to distinguish causal conditions from accidental conditions. Taylor's argument rests on a particular view of causation and counterfactuals—the subject of Chapter 4. 115

4 Law, Accident, Necessity, and Counterfactuals 119

Several major objections to Hume's theory turn on claims about the nature of counterfactual conditionals and Hume's alleged inability to account for the difference between causal and accidental regularities.

- I William Kneale argues that Hume's theory cannot account for the modal force of laws, as reflected in the truth of the counterfactuals they support; but Kneale's account of natural necessity is unsatisfactory. 120
- II J. L. Mackie tries to overcome Kneale's problems through an appeal to principles of persistence; but it is doubtful whether this account is more adequate than Kneale's. 125
- III Hume identifies two conditions on the basis of which accidental and lawlike generalizations can be distinguished. The first is the condition of inductive support. 131
- IV The second condition satisfied by lawlike causal generalizations, but not by accidental ones, is that of predictive confidence. A. J. Ayer and Nicholas Rescher have employed this Humean approach, but Kneale and his followers argue that the epistemological criteria it involves fail to capture the modal force of laws. 139
- V The Humean response turns on a general account of counterfactual statements, beginning with the observation that the evidence for a counterfactual is identical to the evidence for its associated general law. 145
- VI This observation can be deployed to circumvent the objection that Hume offers an epistemological account of causal laws where a metaphysical account is required. An allegedly "accidental" universal that meets Humean inductive tests of survival is a universal of law. 151
- VII Should the analysis of counterfactuals provide the analysis of lawlike generalizations, or vice versa? It is unclear which notion is fundamental and which derivative, but the Humean need not choose between them. 156
- VIII Possible worlds semantics provides the basis for new accounts of causation and lawlikeness. David Lewis's anti-Humean version of this theory fails to show the regularity account untenable. 157

5 Contiguity and Succession 171

Hume's arguments in the *Treatise* about contiguity and succession have generally been ignored or misinterpreted.

- I Hume's thesis that causes must be temporally contiguous with their effects allows for remote causes, provided that a causal chain obtains between them. Many objections to Hume's contiguity criterion confuse a metaphysical theory of events with an epistemological theory of explanation. 172
- II Hume's requirement of spatial contiguity should also be treated in terms of causal chains. His arguments against action at a distance are inconsistent with his empiricist

- epistemology, but this inconsistency does not undermine the spatial contiguity requirement.
- III Hume's spatiotemporal contiguity requirements can surmount two objections: the objection that quantum mechanics permits noninstantaneous action at a spatiotemporal distance and the objection that Hume's requirement invalidates the distinction between the cause and the entire causal chain that occurs before an effect. 181
- IV Norwood Hanson's attack on Hume's empiricism and on the use of causal chain notions is unconvincing. 184
- V Hume argues that effects must immediately succeed causes. According to some philosophers, his premises paradoxically lead to the conclusion that causes and effects are simultaneous rather than successive. 189
- VI Hume provides an uncharacteristically obscure argument for the "absolute necessity" of the immediate succession of effects, but it can be clarified by analysis of the terms "contiguity" and "succession." 192
- VII Bertrand Russell and Richard Taylor have both challenged Hume's contiguity and succession criteria. Their arguments collapse when an appropriate theory of instants and events is adopted. 195
- VIII Hume's contiguity and succession criteria presuppose "established maxims of natural philosophy" for which he never argues. These maxims raise problems of time order and causal order—the subject of Chapter 6. 199

6 The Nature of Causal Directionality 201

The causal relation is universally agreed to be asymmetrical, but there has been no agreement on the nature of causal asymmetry. Hume seems to have attributed the direction of causation to the temporal priority of causes, but several alternatives have recently been advanced.

- I Three conditions of adequacy for any acceptable non-Humean account of causal priority must be satisfied. Such an account must be noncircular, nontemporal, and provide a necessary component of causation as a whole. 202
- II The manipulability theory of causal priority, due to Douglas Gasking and G. H. von Wright, presupposes causal notions, and so fails the adequacy conditions—especially that of noncircularity. 203
- III J. A. Aronson's transference-of-quantity theory both presupposes knowledge of causal directionality and wrongly supposes that some privileged quantity is unidirectionally transferred in all causal sequences. 208

- IV J. L. Mackie's earliest non-Humean proposal also runs afoul of the adequacy conditions. It presupposes causal notions and fails to account either for simultaneous or for nonsimultaneous cases. 212
- V Mackie's revised theory of causal asymmetry, appearing in an extended treatment of causation, suffers from defects similar to those that vitiated his earlier account. An additional deficiency of the later theory is its incompatibility with determinism. 218
- VI David Sanford propounds a non-Humean account of directionality that denies the symmetry of the relation of conditionship and attempts explicitly to satisfy the aforementioned adequacy conditions. Although Sanford's theory suffers from three defects, it leads to significant conclusions that may be compatible with Humean analyses. 227
- VII Failures in the above accounts encourage a reconsideration of Hume's original theory. His views are defensible in the light of contemporary science, though they rest on the unsubstantiated "maxim of natural philosophy" discussed in Chapter 5. 236
- VIII There are reasons for thinking that Hume is not committed to any theory of causal priority, but is committed to the view that there is no causal priority. 240
- IX Should determinism be incorrect and indeterminism correct, the Humean may hold that there is no causal priority because there is no causation. Alternatively, determinism may entail that causation is nonasymmetrical. 243

7 Events, Facts, and the Extensionality of Causal Contexts 247

Hume does not treat the problem of causal relata, but his theory may be placed in the context of recent theories of the ontology of causation.

- I Textual analysis reveals no single theory of causal relata in Hume's writings. 248
- II Jaegwon Kim provides an ontology for causation that can be modified to reflect Hume's commitments. Hume's commitments can then be unified under Kim's category of a structured event. 250
- III The required modification of Kim's treatment stands in danger of rendering causal reports nonextensional; yet the Humean view of causation requires extensionality. 256
- IV Independent of Humean commitments, there are reasons for accepting the extensionality of causal statements. Modifications in the Humean ontology required by extensionality are defensible. 262

- V Prominent counterexamples to the claim that causal statements are extensional can be resolved by appeal to a revised criterion of extensionality that may be referred to as Nominal Extensionality. 264
- VI The criterion of Nominal Extensionality can be applied to resolve a problem generated by adverbial modification. This application commits the Humean to a multiplication of the number, but not the types, of causal relata. 269
- VII The Humean commitment to extensionality and to concrete particular events is defensible against J. L. Mackie's alternative program, which offers epistemological answers for metaphysical problems. 275

8 Causal Judgment and Causal Explanation 283

Causation and explanation present substantially different problems. Nonetheless, there are important connections between them, and it has been widely held that Hume's theory of causation is inadequate for the analysis of causal judgment and causal explanation.

- I R. G. Collingwood, H. L. A. Hart, R. M. Honoré, and others judge Hume's analysis incapable of treating singular causal judgments in historical, legal, and practical contexts. 285
- II Some of the objections offered by these critics are misdirected; others are met by the arguments of Hume and his successor John Stuart Mill. 291
- III Hume's descriptive and psychological theory of causal judgment is not an attempt to analyze ordinary causal judgments, and he need not deny the correctness of contemporary analyses. Nor is Mill's whole-of-the-antecedents thesis open to the alleged objections of many of his critics. 294
- IV Is Hume committed to a covering-law account of explanation? Although he seems indifferent to questions about explanation, he appears to support a revisionary analysis of explanation involving covering laws and is clearly committed to an account of explanation that is uniform across all empirical disciplines. 300
- V Certain problems that have bedeviled the covering-law theory may successfully be avoided by proponents of the regularity theory. The power of an explanation must ultimately rest on processes that are causal in Hume's sense. 305
- VI Both technical objections and counterexamples challenge the covering-law model, and it now appears that the model at best provides necessary conditions of explanation. Hume's account of causation is not impugned by these criticisms and actually helps overcome certain deficiencies in the covering-law theory. 309

VII	Humeans must confront doubts that the covering-law model can be extended to the life sciences and the social sciences. As a first step, they must argue that teleological explanations are causal and conform to a minimal version of the covering-law model.	314
VIII	Hume and all Humeans are similarly committed to a causal account of human action, to the use of covering-laws in such explanations, and to the compatibility of determinism and commonsense attributions of free will to human agents.	321
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