

THOMAS REID AND DAVID HUME: CONFLICTING THEORIES OF
CAUSATION HAVING IMPLICATIONS FOR METAPHYSICS

by

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Our notion of cause and effect is the basis for reasoning beyond what we know by means of our senses: for metaphysical reasoning concerning an external world, mind, and God. David Hume argued that such reasoning is built on a habit of the mind formed by sensations that are constantly conjoined. This necessary connexion leads the mind to infer the existence of the cause from an impression of the effect. Thomas Reid thought our understanding of cause and effect to be based on the causal principle: that whatever begins to exist must have a cause. This principle, like the law of non-contradiction, is logically necessary, known a priori, and is a first principle which cannot be established by demonstration. This thesis defends the necessity of the causal principle and argues that it allows us to reason about the existence of things beyond our sensations, namely about the existence of God.

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DEDICATION

To my wife Patricia, my life companion and comrade in
pursuit of Truth, Goodness, and Beauty

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CHAPTER ONE: INTRODUCTION

"Seeing is believing." Is this the only way that our belief is warranted? Can we have any real knowledge about what we cannot see, feel, touch, taste, or hear? That realm of knowledge, whether we can really claim to know any such things, is called metaphysics.

The noted philosopher David Hume (1711-1776) addressed such questions with vigor. Thomas Reid (1710-1796), also a Scotsman and a philosopher, had great respect for Hume's ability to reason, but came to fundamentally disagree with Hume.

My approach is to seek to understand the philosophy of these two great thinkers and bring their ideas into dialogue with my own. I allow that they may be misguided in their approach to philosophy. I do not answer that metaphysical question here. My goal has been to read the two authors carefully and dialogue with them on their own terms using the distinctions they have set up. There are points where I disagree with both of them.

My thesis is that we can have knowledge about what is beyond the reach of our senses: we can have metaphysical knowledge. This knowledge is based on our notion of cause

and effect. Reid has been my pedagogue in these things. Hume argues that we cannot have metaphysical knowledge: he is agnostic as to the existence of mind, the material world, and God.

The discussion of cause and effect centers around the "Causal Principle." The causal principle states that: whatever begins to exist must have a cause. Hume thinks we cannot know with certainty that the causal principle is true. He mounts two significant attacks against the causal principle which he thinks show that it cannot be certain. Then he gives an account of the source of our notions of cause and effect.

Aided and instructed by Reid I defend the causal principle against those attacks and show that Hume's account of the origin of our notion of cause and effect is insufficient. Reid's explanation is much more satisfactory and is the one I hold. I go on to fill out Reid's view by showing the relation of the causal principle (CP) to the Principle of Sufficient Reason (PSR): whatever exists must have a sufficient cause for its existence. Finally I show what direction and usefulness PSR has in our search for metaphysical knowledge, namely, its relation to one form of the Cosmological Argument for the existence of God.

Before we embark on this symposium about metaphysics, and cause and effect, I think it important to lay out a

general orientation to the philosophy of these two thinkers and draw one distinction. Though fraught with the perils of oversimplification it would be even more damaging to continue without doing so.

Hume's World of Ideas

Hume did not claim that there is no God, there is no material world, there is no mind, or that the causal principle is not true. He merely claimed that we could have no knowledge of such matters. Knowledge comes through the senses. I can see a chair and I can have a picture in my mind of a chair. For Hume these are just varying degrees of the same thing: a chair perception. Hume opens his Treatise of Human Nature with the famed line, "All the perceptions of the human mind resolve themselves into two distinct kinds, which I shall call IMPRESSIONS and IDEAS. The difference betwixt these consists in the degrees of force and liveliness with which they strike upon the mind" (p.1 all references are made to A Treatise of Human Nature. ed. by Selby-Bigge, fourteenth edition, Oxford: Clarendon Press, 1967.).

When we see a chair we are having a "chair impression." From a side view I see four legs, a seat, and a back. I cannot see the top or bottom of the seat nor the backside of the back. If I climb onto the roof and look at the chair

through the skylight I see the back and the seat but no legs. These are two different impressions which are being projected in the theater of my mind. I think these are of the same chair but how do I know that? Both impressions were different. They may be of the same chair or maybe not; all I have to go on is my "chair impression." How can I say I am seeing the chair in both cases when the impressions were not the same? The only knowledge I have is of a continual stream of impressions of chairs, tables, giraffes, and the like. I cannot know if my impressions are caused by real chairs, real tables, and real giraffes. I cannot know that there is an external world at all.

Ideas are just a fainter picture in the mind. For every impression there is a corresponding Idea (I continue to capitalize Idea for a purpose that will become apparent). Impressions are what we have when we know something by means of our senses. Ideas are the pictures, if you will, that we have when we are thinking about those impressions.

Ideas and impressions are our perceptions; they are all we really know to exist. I am, according to Hume, a mere bundle of perceptions. I cannot even say that these perceptions are occurring in my mind. I do not know if I have a mind (and now you're beginning to wonder too).

If we say we have knowledge about something, something that we have not learned through our senses, Hume would

require us to show him an impression that corresponds to this knowledge. If we cannot produce such an impression then we cannot claim to know it.

There is another knowledge we can have, in Hume's world, but it is not knowledge about what exists and does not exist. This knowledge is about the relation one Idea has to another: how it does and does not resemble another, that we cannot simultaneously have and not have the same Idea, that the Idea of two apples can be understood as the addition of one apple to another apple. The knowledge of some relations is even more certain than the knowledge we have by our senses (more on this later).

Reid's World of Common Sense

Thomas Reid thought that we actually see chairs. According to Reid, Hume's Ideal philosophy sprang from a confusion of perception and sensation. When I put my hand in a fire I sense heat and a burning sensation. I am not feeling the fire I am feeling heat and burning. That heat and that burning sensation suggest a fire to me. The fire does not have a feeling of heat and burning that resembles the feeling I have in my hand. In order for me to be "connected" to the fire, by perception, my sensation need not resemble anything in the fire. It is the language, if

you will, of that sensation which brings me to understand that there is a fire in the fireplace.

Among other things, perception consists of sensation, and the suggestion of an object. Sometimes we do not distinguish between the sensation and the object in our conversations. When I say I heard a car I am saying that I heard the sound a car makes and that sound suggests (through the language of perception) the presence of a car.

This language of perception easily circumvents the problem of two different visual sensations of a chair. Figured in to my perception of a chair is my understanding of perspective. I know that when I look at a chair from the side it will look different from the view I have of it through the skylight. I know that when I view a rhinoceros from a distance of five hundred yards it will seem as though I could hold him in my hand; but when I view a rhino from five yards I will be greatly inspired to run the other direction. Both sensations suggest the same object. In both cases I am seeing the rhino and not an impression or "rhino sensation."

Distinguishing sensation and perception allows Reid to keep his knowledge of a material world. The thoughts he has about those perceptions are sometimes called ideas but they are a very different type of thing from Hume's Ideas. To avoid confusion I will refer to Reid's thoughts as notions.

Not Confusing Ideas with Abstract Notions

The reason I will always capitalize the word "Idea," when using it in the sense that Hume does, is that it is a whole different thing than what we mean when we use the term in conversation. For a long time I confused the term "idea," which could just as well be expressed by "notion," with the term, "Idea," which has an entirely different meaning. According to Hume, Ideas are what we know to exist. In Reid's philosophy, and in my own, objects exist and there is no such thing as an Idea. Notions, though they do not exist, can be reasoned about:

A second class of objects of the understanding which [one] may be employed about in thinking, are things which we either believe never to have existed, or which we think of without regard to their existence.

Thus, I can think of Don Quixote, of the Island of Laputa, of Oceana, and of Utopia, which I believe never to have existed. Every attribute, every species, and every genus of things, considered abstractly, without any regard to their existence or non-existence, may be an object of the understanding (Essays on the Intellectual Powers of Man p.430).

Abstract notions can also be mathematical or logical concepts such as numbers or "part," and "whole."

The relations of these abstract notions can be reasoned about and we can have knowledge about them. We know that the whole is always greater than the part, that a king cannot also be a queen, and that two plus two is equal to four.

If I say that I think there is an elephant in your back yard Reid would ask me to show it to him so he can verify that it is true. He does this in the same way that Hume would ask you to point to an impression of an Idea you are claiming to have. If I tell you that the whole is always greater than the part Reid would not ask me to show him that every part in the world is less than the whole thing of which it is a part. Neither would Hume ask you for a corresponding impression of a part or whole because we are not talking of an actual existing Idea but of the relation between two abstract notions.

Hume devotes an entire chapter of the Treatise to a discussion of abstract Ideas. He argues that when we think of a chair we must think of a particular chair. The chair must have legs shaped a certain way and a back of a certain height. I agree with him. What I am saying about abstract notions is different and something he would agree with. He says the same thing as I have above but calls abstract notions "general or abstract terms" (Treatise of Human Nature pp.20-22). More on this later.

Onwards

No doubt you have heard of forwards; well this is an onward: it brings us back to the focus of the paper in order that we might proceed and not bask forever in the luxury of an introduction.

I am proposing that we look at two of Hume's arguments against the certainty of the causal principle: that will be the subject of chapters three and four. Chapter two is devoted to some basic definitions which will allow us to navigate through Hume's arguments. We will then proceed to Hume's explanation of where we get the notion of cause and effect. I find his explanation to not be satisfactory. I will offer the explanation (for the origin of our notion of cause and effect) that I share with Reid. In the sixth and final chapter I will draw out the implications of Hume's position and of Reid's position. I will also show the relation between the causal principle and the principle of sufficient reason. Last of all I will show what import the principle of sufficient reason can have in gaining knowledge about what is beyond what we can see: metaphysical knowledge.

CHAPTER TWO: BASIC DEFINITIONS AND SUMMARY OF HUME'S CHAPTER
ON THE CAUSAL PRINCIPLE

Impossibility, Possibility, Necessity and Contingency

We begin with four basic definitions of the terms "necessary," "contingent," "possible," and "impossible." I am using "impossible," to designate logical impossibility. Something is logically impossible if it implies a contradiction. It is impossible that you are both reading and not reading this essay. You may be running your eyes over the words while thinking of your next vacation in Liechtenstein. You may tell me that running your eyes over the words is reading and that since you are thinking about Liechtenstein you are not reading. But this involves two different definitions of reading. If we define reading as concentrating on the text then you cannot be both doing it and not doing it. If something is possible then it does not imply a contradiction. In this sense it is possible that Galileo could drop a stone from the leaning tower of Pisa and it would not fall; or that I will wake up tomorrow and be a KGB agent.

Something is necessarily true if its contrary is impossible. It is true that the sun rose this morning but

it could have vanished while shining on Australia last night and not have risen this morning. That the sun rose this morning is not a necessary truth. It is necessarily true that all triangles have three sides. It can be no other way. If a square, pretending to be a triangle, tried to hold up a bank the police would see that it has four sides and would immediately know it was a square and not a triangle. It is impossible for a triangle to have more or less than three sides. Contingent truth designates that which is true but is not necessarily true. That the sun rose this morning is a contingent truth; it could have been otherwise.

Certainty vs. Probability and Certainty vs. Uncertainty

We have been talking a great deal about what one can know and cannot know. Usually when I use the term knowledge in this discussion it will be in the Humean sense. Hume opposes certain knowledge to probable knowledge. Certain knowledge is knowledge of a necessary truth. In this sense I am certain that $2 + 2 = 4$, but I am not certain that the sun will rise tomorrow. Probable knowledge is knowledge of a contingent truth. In this sense I say it is only probable and not certain that the sun will rise tomorrow. It is not logically necessary that the sun rise tomorrow.

Hume realizes, at the same time, that he would never say, "The sun will probably rise tomorrow." Similarly I would not say that I am probably sitting down right now. This points to a different use of the terms "certainty," and "probability." In the above case probability denotes the contingency of the thing known but in everyday conversation probability denotes uncertainty. In the above case certainty denotes the necessity of the thing known but in everyday conversation certainty denotes the convincing effect a truth has on a sound mind (awkward paraphrase of Reid's definition). Assuming I am of sound mind, when I say I am certain of something, you understand me to be saying I am fully convinced of the truth of it. I am just as certain that I am sitting in a chair at this moment as I am that $2 + 2 = 4$. The one type of certainty is not inferior to the other it is merely different.

Demonstrable Certainty vs. Intuitive Certainty

Both philosophers identify two types of certainty. By demonstrable certainty I understand them to mean the status of something that can be shown to be necessarily true by an argument. Intuitive certainty denotes those things we immediately know to be necessarily true without an argument to support them. They are the truths from which we argue the demonstrable certainty of other propositions. We are

intuitively certain it is impossible that both A and not-A. We are intuitively certain that $1 + 1 = 2$ and that 2 does not equal 3. Using those intuitive certainties we are demonstrably certain that $1 + 1$ is not equal to 3.

A Priori Truth and A Posteriori Truth

Hume also uses the terms, "a priori," knowledge and "a posteriori," knowledge. If something is known a priori it is known without reference to experience. If you ask me whether the whole of something is always greater than the part I need only think it through. I need not go out into the world and test everything to see if the whole of it is greater than part of it. I may some day find a four leaf clover or a blue swan but will never find something of which the part is greater than the whole. Or in the case of a bachelor being tried for polygamy, the jury would either end up finding him a bachelor, a polygamist, or a monogamist but not two of the three. This is known without reference to experience.

A posteriori knowledge refers to what we can know only from experience. I could only know by experience that trees grow up and not down, that gravity pulls objects to the ground, that McDonalds is not the place to go for morning coffee.

Onwards Again

Though the fragrance of flowery definition savors sweet we must be off to Hume's arguments against the causal principle. In his chapter, entitled "Why a cause is always necessary," Hume addresses the arguments philosophers have posed to try and demonstrate the necessity of the causal principle. These arguments were put forth by Samuel Clarke, Hobbes and Leibniz. I shall not take time here to recapitulate them as I think them flawed and Hume's critique of them accurate.

It is the remainder of the chapter that interests us. Hume addresses the rest of the chapter to those who would side with Reid. Reid holds that the causal principle is not demonstrably certain (as did Clarke, Hobbes, and Leibniz), but rather, that it is intuitively certain. If Reid were correct he could not demonstrate its necessity just as Hume could not demonstrate the necessity of the law of non-contradiction or of other things he holds to be intuitively certain. Reid could only give corroborating evidence (which he does).

Since Hume wanted to show that the causal principle was not certain (not necessarily true) he gives two arguments for why it must be a contingent principle. The first argument claims that if we can conceive of something then it is possible. Since we can conceive of the contrary of the

causal principle then the contrary of the causal principle is possible. Since both the causal principle and its contrary are possible the causal principle is not necessary but merely contingent. This is the argument addressed in chapter three.

The second argument against the intuitive certainty of the causal principle is that the causal principle is not a necessary relation of Ideas. Hume holds that there are only four relations between Ideas that are necessary (an example of a necessary relation is the following: an Idea cannot both exist and not exist simultaneously). Since the causal principle is not one of these relations it cannot itself be necessary. This is the subject of chapter four.

After having given the above arguments against the intuitive certainty of the causal principle Hume "treks off" through the rest of Book I of the Treatise trying to find where our notion of cause and effect originates. This is the focus of chapter five.

CHAPTER THREE: THE "CONCEIVABILITY TEST" AND THE QUESTION OF THE CAUSAL PRINCIPLE'S NECESSITY

As Reid puts it, one "argument [of Hume's against the intuitive certainty of the causal principle] is, That whatever we can conceive is possible" (p.457 all references made to Essays on the Intellectual Powers of Man. ed. by Sir William Hamilton, eighth edition, Edinburgh: James Thin, 1985.). Reid is here referring to Hume's argument in the Treatise.

Before diving into the text of Hume's argument I will tell you what I think Hume means by "distinct conception." Distinct conception denotes the understanding of a proposition or state of affairs followed by an intuitive judgement (i.e. arrived at without demonstration) that the proposition or state of affairs is possible. It may involve visualization of the thing being conceived. It is a judgement arrived at without demonstration. When we distinctly conceive of a triangle with three sides we judge that it is possible for it to have three sides. When we try to distinctly conceive of a triangle with four sides, to understand and judge that it is possible, we find we cannot judge it to be possible.

Now let us turn to Hume's argument:

But here is an argument, which proves at once, that the foregoing proposition [the causal principle] is neither intuitively nor demonstrably certain. We can never demonstrate the necessity of a cause to every new existence, or new modification of existence, without shewing at the same time the impossibility there is, that any thing can ever begin to exist without some productive principle; and where the latter proposition cannot be prov'd, we must despair of ever being able to prove the former. Now that the latter proposition is utterly incapable of a demonstrative proof, we may satisfy ourselves by considering, that as all distinct ideas are separable from each other, and as the ideas of cause and effect are evidently distinct, 'twill be easy for us to conceive any object to be non-existent this moment and existent the next, without conjoining to it the distinct idea of a cause or productive principle. The separation, therefore, of the idea of a cause from that of a beginning of existence, is plainly possible for the imagination; and consequently the actual separation of these objects is so far possible, that it implies no contradiction nor absurdity; and is therefore incapable of being refuted by any reasoning from mere ideas; without which 'tis

impossible to demonstrate the necessity of a cause.

(Treatise of Human Nature pp.79-80).

Before attempting to explain Hume's argument I want to identify why the argument is of relevance to Reid. Judging by the conclusion, in the last line of the above quote, Hume seems to only have established that the causal principle cannot be demonstrated to be necessary. If this were so Reid would have no reason to worry since he is claiming intuitive certainty for the causal principle and not demonstrable certainty. But Hume is really trying to establish much more. He is trying to show that the causal principle is not demonstrably certain and that it is demonstrated to be contingent. If Hume does demonstrate that the causal principle is contingent then he will have shown that it cannot be intuitively certain. This reading is evidenced by the opening lines of the paragraph, "Here is an argument, which proves at once, that the foregoing proposition is neither intuitively nor demonstrably certain" (Treatise of Human Nature p.79). Hume is purporting to demonstrate that the causal principle cannot be necessary but is contingent. If he is right then the causal principle would be precluded from the status of an intuitively certain principle for, according to Hume and the definitions we have established, if something is not necessarily true then it cannot be certain (demonstrably or intuitively). This is

the only way I find to make sense of Hume's conclusion and his introduction to the above paragraph. It also explains why Reid thinks he needs to answer it.

Hume's Argument

The essential elements of Hume's argument are two: the procedure used to determine the logical status of a proposition, and the application of that procedure to the causal principle.

The Epistemological Procedure Used to Determine Logical Status: The Conceivability Test

Reid agrees with Hume about the logical categories of necessity and contingency, impossibility and possibility. It is only when Hume introduces (what I will henceforth call) the conceivability test do their views diverge. The test is quite simple. All one need do is ask oneself whether or not she can distinctly conceive the contrary of a certain proposition. If she can then the contrary is possible and the original proposition is contingent. What is distinctly conceivable is possible: If X is conceivable then X is possible.

Try to conceive of, or imagine, playing on the beach. I can conceive of it therefore it is logically possible for me to play on the beach. I can conceive of wearing a pair

of red longjohns and flying to the moon. I can also conceive of wearing a pair of red longjohns and not flying to the moon; (though highly unlikely given my penchant for flying to the moon every time I am wearing red longjohns) this too is possible. I am not able to conceive, try as I might, of a triangle with four sides or a bachelor with four wives.

The Application of the Conceivability Test to the Causal Principle

The causal principle asserts that whatever begins to exist must have a cause. This means it is impossible that something begin to exist and not have a cause. Hume points out that we can conceive of something coming into existence without conceiving of it as having a cause. I can conceive of sitting at the 19th street pub, having a beer, and seeing a sombre hyena popping into existence out of nothing. That is: I can conceive of the sombre hyena coming into existence without simultaneously conceiving of a cause of its existence. Since I can conceive of such an event and its cause separately it is possible for them to actually be separate. If it is possible for something's existence and its cause to be separate then their connection is only a contingent one and not a necessary one.

Reid's Response

Reid agrees with Hume about the relations that obtain between logical and epistemological categories. Reid does not, at first glance, agree with Hume's epistemological procedure (i.e. the conceivability test) used to determine something's logical status. Reid does not think the conceivability test is a valid way to demonstrate that a proposition is necessary or contingent.

First we will look at how Reid uses the term "conception," in his own writing. Then I will examine three alternative meanings Reid considers in trying to understand Hume's conceivability test. Three arguments, separate from the three definitions, are given as to why the conceivability test is not a test for possibility. Finally we will examine Reid's own basis for knowing what is necessary, merely possible, and impossible.

Reid's Use of "Conceive" and His Account of How Other Philosophers Have Used the Term

In his essays Reid uses the word "conceive" to denote the mental grasping of the meaning of a word, concept or proposition. He was very careful to distinguish conception from judgement. He thought that conception is independent of and must precede judgement. I can conceive of the proposition, "Woody Allen is a member of the latent paranoid

softball team," without judging whether or not it is true. I cannot judge it to be true or false without having first conceived of it.

In his essay on conception Reid devotes an entire chapter to what he considers mistakes concerning conception; most of that chapter deals with the conceivability test. He traces the test back to the scholastics:

One of the fruitless questions agitated among the scholastic philosophers in the dark ages was--What is the criterion of truth? as if men could have any other way to distinguish truth from error, but by the right use of that power of judging (Essays on the Intellectual Powers of Man p.376).

Reid is saying that there is no other test for truth apart from the correct application of our judging faculties. What Reid overlooks is that Hume's "distinct conception" is part of the application of judgement. The judgement in this case is of possibility or impossibility not of truth or falsity. More on this later.

According to Reid, Descartes' test was that whatever he could distinctly conceive was true. Others saw that what was false could also be distinctly conceived. Then the test was used to distinguish the possible from the impossible. As Reid understands it, some philosophers believed that "If we can conceive the thing, it is possible; if not, then it

is impossible. Other philosophers have been satisfied with one half of the maxim...they say, that whatever we can conceive is possible; but they do not say that whatever we cannot conceive is impossible (Essays on the Intellectual Powers of Man p.377). Reid notes that it is the first half of the test (i.e. whatever we can conceive is possible) that Hume accepts. The other half of the test (i.e. whatever we cannot conceive is impossible) I will hereafter refer to as the inconceivability test.

The Inconceivability Test would function in the following manner. Suppose I try to conceive of a six sided pentagon and find that I cannot. Its inconceivability would then be claimed as a sign of its impossibility. There is a problem with this test which we will discuss later.

Three Definitions of "Conceive"

Reid attacks the test as Hume uses it by exploring what Hume could mean by the term "conceive." The three major definitions he offers are: having an understanding of its meaning (i.e. of the thing being conceived), judging it to be true, and having an image of it in the mind.

I am not able to find any other meaning of *conceiving a proposition*, or of *conceiving it to be true*, besides these I have mentioned. I know nothing that can be meant by having the idea of a proposition,

but either the understanding [of] its meaning, or the judging of its truth. I can understand a proposition that is false or impossible, as well as one that is true or possible; and I find that men have contradictory judgments about what is possible or impossible, as well as about other things...If it be said, that the idea of a proposition is an image of it in the mind, I think indeed there cannot be a distinct image, either in the mind or elsewhere, of that which is impossible; but what is meant by the image of a proposition I am not able to comprehend, and I shall be glad to be informed (emphasis mine, Essays on the Intellectual Powers of Man p.378).

The first alternative offered is that to conceive something distinctly is to understand its meaning. Reid points out that we can understand false propositions as well as true ones. By Reid's definition, judgement (the determination of truth or falsity), must be preceded or at least accompanied by an understanding of the proposition. If so then judging it to be true or false, possible or impossible, would be preceded by understanding. If to conceive distinctly is to understand (since we must understand something in order to judge that it is impossible) then we can distinctly conceive of something that is impossible. In other words I can understand the

proposition "all triangles have four sides," even though I agree that it is impossible. I agree with Reid that to understand something does not imply that it is possible. However I do not think this was what Hume meant when using the term, "distinctly conceive."

The second alternative is that distinctly conceiving of a proposition is to judge it to be true. I interpret this to mean judge it to be possible. I opt for this reading because in refuting this definition of distinct conception Reid says that "men have contradictory judgements about what is possible or impossible" (Essays on the Intellectual Powers of Man p.378) rather than saying they disagree about what is true or false. The causal principle would be a case in point (of people having contradictory judgements as to a propositions possibility and impossibility). Reid gives other examples I will address later. I think this is the meaning Hume intended. Reid shows that there are instances in which people disagree about what is possible in order to discount the conceivability test as a foolproof procedure for the determination of possibility. Reid's mistake is to think that his examples of disagreement invalidate the test altogether.

The third possible interpretation of conceive is that it denotes having an image of it in the mind. In this case distinctly conceiving of a giraffe with a sore throat would

be to visualize, in the minds eye, an animal that requires a great number of throat lozenges. Reid brushes this off by expressing ignorance as to what sense could be given to having an image of a proposition. In this instance Reid is thinking of a proposition as a linguistic statement that can be said to be true or false. The term "proposition," is referring to the language expressing a truth about reality. That reality can be called a state of affairs. Propositions are true or false; states of affairs obtain or do not obtain. If Reid's objection is that he cannot visualize the language of a proposition he may be right. Hume may just as well visualize a state of affairs.

Three Arguments Against the Conceivability Test

Reid offers three arguments against the conceivability test; the first he attributes to Hume himself:

Every proposition carries its contradictory in its bosom, and both are conceived at the same time. "It is confessed," says Mr Hume, "that, in all cases where we dissent from any person, we conceive both sides of the question; but we can believe only on." From this, it certainly follows, that, when we dissent from any person about a necessary proposition, we conceive one that is impossible (Essays on the Intellectual Powers of Man p.8).

Hume states that in a disagreement with others we conceive both sides of the question. Given that there are disagreements over necessary propositions, it would follow from Hume's statement, that people conceive of both necessary propositions and their contraries. The contrary of a necessary proposition is an impossible one. Conceiving of both sides of the question would therefore involve conceiving of a possible and an impossible proposition. Suppose that I think two plus three equals five. You on the other hand think two plus three equals four. You would distinctly conceive of the impossible being possible. Such a distinct conception would invalidate Hume's conceivability test. Reid's point is that Hume contradicts himself and really does not hold to all the implications of the conceivability test.

I think Hume is merely inconsistent in his use of "conceive." By "distinct conception," I think he means the judging that something is possible; by "conception," (in the above passage) he merely means, "to understand." Reid has already pointed out that we can understand both sides of a question when one is false. If Hume was using conception in the same sense as the other passage (to understand and judge something to be possible) he would be contradicting himself. I would not agree with him. Just because you disagree with me about a necessary proposition does not mean that you can

distinctly conceive the opposite. You may be stubborn or confused or maybe you just saw the movie, "Space Odyssey 2001."

Reid's second argument against the conceivability test is that "Mathematicians have, in many cases, proved some things to be possible, and others to be impossible, which, without demonstration, would not have been believed" (Essays on the Intellectual Powers of Man p. 378). In other words: some things that seem to be possible at first blush are later demonstrated to be impossible and vice versa. Reid gives two examples of disagreements about possibility and impossibility. His point is that if the conceivability test were true, and we could immediately know what is possible, such a disagreement would never occur.

The first disagreement Reid points to is a long-standing disagreement among eminent mathematicians as to whether or not it is possible to square a circle. What he is referring to is the theoretical possibility of drawing a circle that has the same area as a given square or vice versa. This has since been proven to be impossible (because of the irrationality of π). I still find it significant that there was at some time a disagreement among mathematicians about the possibility or impossibility of some theoretical geometric procedure. Such a disagreement lends support to Reid's position, namely, that there is no

test (apart from demonstrative argument) that answers all questions of possibility.

Reid's second example is more accessible:

It is easy to conceive that, in the infinite series of numbers, and intermediate fractions, some one number, integral or fractional, may bear the same ratio to another, as the side of a square bears to its diagonal; yet, however conceivable this may be, it may be demonstrated to be impossible (Essays on the Intellectual Powers of Man p.378-9).

Given a square, and the system of all rational numbers (integers and fractions), one thinks it possible to give a ratio of the side to the diagonal. There seems to be no reason to think one could not express such a ratio as that of one rational number to another. But in fact it is impossible to express such a ratio with a rational number; such a ratio can only be expressed by an irrational number.

Again this example depends on what one means by distinct conception. If Reid uses "conceive," to denote "understand," then he is right. We can understand the proposition: "the ratio of the side of a square to its diagonal can be expressed by a rational number." I find that I expect there to be such a rational number. In fact there is no such number; my false expectation is due to my ignorance. If by "conceive," Reid means "judge it to be

possible," I think he is mistaken. One could judge it to be possible that there is a rational number that expresses the ratio but he would be mistaken.

The third argument again rests on the equating of "conceive" and "understand." It is, simply, that "Mathematicians often require us to conceive things that are impossible, in order to prove them to be so. This is the case in all their demonstrations *ad absurdum*" (Essays on the Intellectual Powers of Man p.378). For instance in order to prove that the sum of the angles of a triangle is 180 degrees we suppose first that the sum is greater than 180 degrees. If the sum is greater than 180 degrees then two of the angles could be right angles. But if two of the angles were 90 degrees (or more) then the lines which would form the third angle would never meet. If they never met then they could never form an angle and we would no longer be talking about a triangle. Therefore the sum of the angles of a triangle must be either equal to or less than 180 degrees. The same type of proof could then be carried out supposing the sum of the angles of a triangle was less than 180 degrees.

Again I think Reid is right if what Hume means by distinct "conception" is to mean understanding. Since I do not think this is Hume's meaning for the word I find this criticism to be irrelevant.

Reid's Solution

Given Reid's entire treatment of the test, my question is, what are we left with? What do we know to be necessary and what do we know to be contingent? Reid ends this section of his essays with some specific observations as to the extent of such knowledge:

1. There are many propositions which, by [our constitution], we judge to be necessary, as well as true. All mathematical propositions are of this kind, and many others. The contradictories of such propositions must be impossible. Our knowledge, therefore, of what is impossible, must, at least, be as extensive as our knowledge of necessary truth.

2. By our senses, by memory, by testimony, and by other means, we know many things to be true which do not appear to be necessary. But whatever is true is possible. Our knowledge, therefore, of what is possible must, at least, extend as far as our knowledge of truth.

3. If a man pretends to determine the possibility or impossibility of things beyond these limits, let him bring proof. I do not say that no such proof can be brought...But I say that his being able to conceive a thing, is no proof that it is possible (emphasis mine, Essays on the Intellectual Powers of Man p.379).

To say that our knowledge of what is impossible is as extensive as our knowledge of what is necessary is to appeal to the definition of "necessary." If something is necessary then its contrary is impossible. Reid holds that we have a certain knowledge of what is necessary. We know it is necessarily true that five plus four must equal nine; that all bachelors are unmarried; that you must either read this essay or not read this essay. Our knowledge of what is impossible is just as extensive. It is impossible that five plus four equal some number other than nine. It is impossible that a bachelor be a bigamist. It is impossible that you both read and not read this essay.

Reid's second point is that our knowledge of what is possible is at least as extensive as our experience: experience limits our knowledge of what is possible. I think we can derive other possibilities from experience. We do this by imagining mutations or negations of experience or by combining one experience with another. If we see Madame Vargas drinking coffee at the Bistro then we know it is possible. But I contend that we also know it is possible that she drink juice, or that her poodle drink coffee, or that Madame Vargas change into a poodle and take coffee she bought at the Bistro and drink it at the Dua-Zting while getting her nails clipped. Our knowledge of what is possible is still limited by experience but it extends

beyond our actual experience to include our imagination's rearrangement of experience.

Reid's third point is that beyond this knowledge, of the impossible gained through a knowledge of what is necessary, and of the possible gained through experience, we must prove what is possible and impossible. Reid is thinking of the causal principle and other unsolved mathematical problems. If Hume says the causal principle is not necessary then he must demonstrate it is not necessary. It is not enough to say we can conceive of the contrary of the causal principle.

I agree with Reid and think that this points to the breakdown in Hume's conceivability test. The breakdown in Hume's conceivability test is that it cannot help us determine whether something is possible or impossible if we disagree about whether it is conceivable. I will explain this more fully as I explain my own basis for a test.

My Application of Conceivability and Inconceivability to
Reid's Procedure for Determining What is Necessary,
Impossible, and Merely Possible

Hume's conceivability test identifies the procedure whereby we understand what is necessary, merely possible, and what is impossible. Hume misapplies the procedure by trying to make it a test whereby he can convince others that

a proposition is impossible. Reid misunderstood Hume. Hume's conceivability test actually shows how we come to a knowledge of what is necessary and what is merely possible. That is the same knowledge Reid is describing in points one and two of his description of what we know to be necessary and possible.

First I will remind you of my definition, of "distinct conception," which I still think agrees with Hume's meaning. Distinct conception denotes the understanding of a proposition or state of affairs followed by an intuitive judgement (i.e. arrived at without demonstration) that the proposition or state of affairs is possible. It may involve visualization of the thing being conceived. It is a judgement arrived at without demonstration. When we distinctly conceive of a triangle with three sides we judge that it is possible. When we try to distinctly conceive of a triangle with four sides, to understand and judge that it is possible, we find we cannot judge it to be possible (in fact we judge it to be impossible).

Knowledge of What Is Necessary and What Is Impossible

According to Reid we know some basic things to be necessary and our knowledge of what is impossible is just as extensive. I think the way we understand what is necessary and impossible can be stated in terms of the conceivability

test: If X is conceivable and not-X is inconceivable then X is necessary and not-X is impossible.

The above statement is a description of how we know some basic things to be necessary and their contrary to be impossible. If we want to know whether it is necessary that a triangle have three sides we need only try to conceive of a triangle that does not have three sides. We immediately find it to be inconceivable that a triangle not have three sides and we conclude it is necessary that a triangle have three sides. We can conceive of a round circle but cannot conceive of a square circle: we know it to be necessary that a circle be round and impossible that a circle be other than round.

Note that neither half of this test could stand alone. Just because we can conceive of X does not mean it is necessary. We can conceive of people driving cars but it is not necessary that people drive them: monkeys could drive cars and people could swing from trees. Just because we cannot conceive of not-X does not mean it is impossible. It could be inconceivable because our experience is limited. You may have never experienced a Gualigalumpus and I cannot describe it by reference to anything you have experienced. Nevertheless the Gualigalumpus may exist. You could only be sure that a Gualigalumpus does not exist if you could conceive of a not-Gualigalumpus while being unable to

conceive of a Gualigalumpus. Since you do not know what a Gualigalumpus is you will not be able to conceive of a not-Gualigalumpus. Because both a Gualigalumpus and a not-Gualigalumpus are inconceivable you cannot know if either is possible or impossible.

Knowledge of What Is Contingent

How do we know that A is contingent: that both A and not-A are possible? We know A is contingent because we know A to be true a posteriori. If we know A a posteriori (as opposed to a priori) then we know that A is contingent because whatever is true a posteriori is contingent. If we have seen a poodle, as I had the pleasure of doing one day while having coffee with Madame Vargas, then we know that it is possible for a poodle to exist. Since we know a posteriori (as Hume established above) that a poodle exists we also know it may have been possible for a poodle to not exist. We know this because we know a poodle to exist a posteriori. We also know it is possible that any mutation of a poodle or any Madame Vargas-poodle combination may exist (since we conceive of it without contradiction).

Any combination or mutation of our experience is possible so long as it is not contradictory. A bolck is a worm-eating tie-wearing reptile. A colck is a tie-eating worm-wearing mammal. A bolck may co-exist with a colck. But,

assuming reptile and mammal to be mutually exclusive categories, it is impossible that a bolk-colk exist.

We arrive at a knowledge of contingent truths through experience. We could also express this as: If X is conceivable and not-X is conceivable then X is contingent, since what is contingent is possible, if X is conceivable then X is possible. This is true (assuming both really are conceivable) but it is not an accurate description of how we come to know that something is contingent. The more accurate description is that we learn something a posteriori and then infer it is contingent. Without experience leading to a posteriori knowledge the "kitchen cupboard" of knowledge would be barren.

Hume's Failure to Show That the Causal Principle is Contingent Because its Contrary is Conceivable

We have the above two tools for determining what is necessary, merely possible, and impossible: 1. If X is conceivable and not-X inconceivable then X is necessary and not-X is impossible; 2. What we know a posteriori is contingent (both it and its contrary are possible). Beyond those above we must demonstrate what is possible. Hume wants to use the conceivability test as the test for possibility. Reid does not think such a test is valid. Reid is mistaken in thinking the test is not at all

descriptive of the human process of knowing. Reid is correct in thinking that the necessity or contingency of most things must be demonstrated. Reid writes that we know certain things are necessary and know their contrary to be impossible (first rule) and what we know a posteriori we know to be merely possible (rule two). Beyond this knowledge we must demonstrate what is and is not possible (third rule).

I think Hume's test is right but that it is not really a test; it is a description of how we gain access to the logical status of a proposition. It is not a test because it cannot be used to settle a disagreement about what is possible and impossible. If I think something impossible, before I have seen a demonstration that it is impossible, it is because I cannot conceive of it. If I cannot conceive of A but you can, it will do you no good to tell me A is possible because A is conceivable. You must, at that point, demonstrate that A is possible based on things we both agree are possible. The conceivability test is useful as a description of how we gain access to the logical status of a proposition because it draws attention to the connection we make between conceivability and possibility, between inconceivability and impossibility. My views of the use of the test are parallel to Reid's three ways of determining logical status. They are, if you will, Reid's principles

translated into the language of conceivability and inconceivability. When two people agree about what is impossible neither of them can distinctly conceive it but both can distinctly conceive of its contrary (first rule). When they agree about what is merely possible they can both distinctly conceive it and its contrary (second rule). When two people disagree, about possibility or impossibility, the desired conclusion as to logical status must be demonstrated to them (third rule).

Reid and I agree that the contrary of the causal principle is impossible (i.e. that the causal principle is necessary). I do not agree that the contrary of the causal principle is conceivable. Hume argues that the contrary of the causal principle is conceivable and therefore possible. Hume must either help me conceive of the contrary of the causal principle or demonstrate that it is possible. He has done neither. By his argument, that the contrary of the causal principle is possible because it is conceivable, he has not shown that the causal principle is contingent and not necessary.

Am I Just Being Stubborn in Saying I Cannot Conceive of the
Contrary of the Causal Principle?

It is fair to ask me whether I am not just being stubborn in saying that I cannot conceive of the contrary of the causal principle.

According to Hume, conceiving of the contrary of the causal principle would be to conceive of something coming into existence without being obliged (by necessity) to conceive of its cause. Conceiving of the contrary of the causal principle would be different from conceiving of a dog popping into existence on the desk in front of you. To conceive of the contrary of the causal principle would be to conceive of a dog popping into existence on the desk in front of you and you not immediately wondering what caused it to pop into existence.

Another way to phrase Hume's point is drawn out in his text:

All distinct ideas are separable from each other, and as the ideas of cause and effect are evidently distinct, 'twill be easy for us to conceive any object to be non-existent this moment and existent the next, without conjoining to it the distinct idea of a cause or productive principle. The separation, therefore, of the idea of a cause from that of a beginning of existence, is plainly possible for the imagination; and

consequently the actual separation of these objects is so far possible, that it implies no contradiction nor absurdity (Treatise pp 79-80).

Since the Ideas of cause and effect are separable in the mind they are separable in actuality (according to Hume).

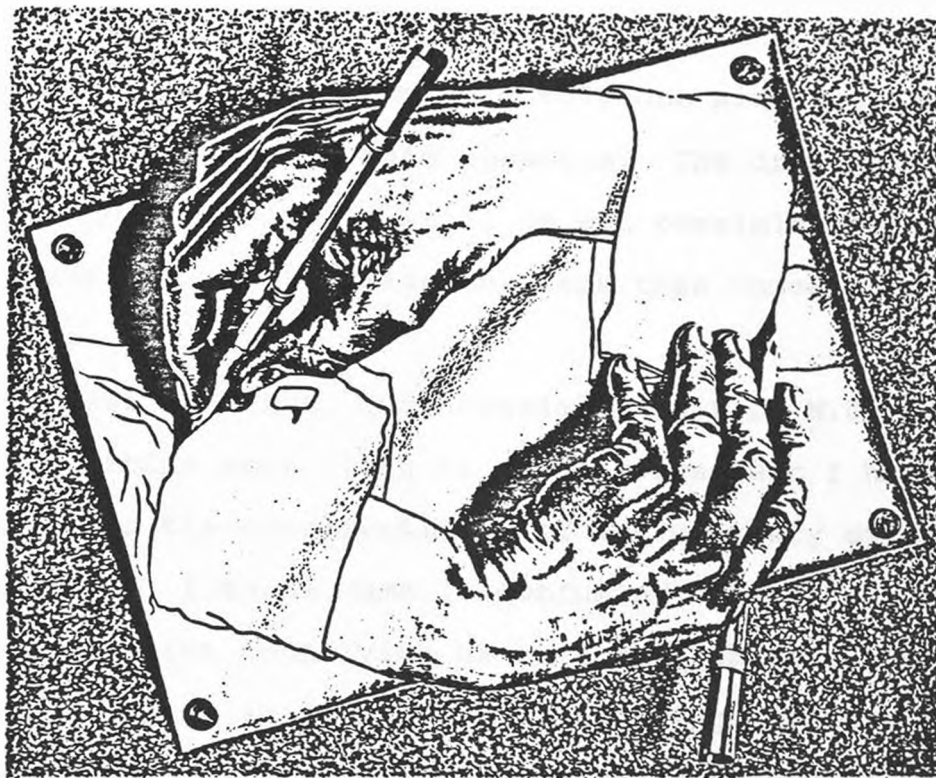
There is an important distinction Hume makes in the Treatise that would be of use to us here. Hume draws a line between a distinction of reason and two Ideas being distinguishable. The passage in which he does so immediately succeeds his distinguishing between abstract terms and abstract Ideas. If I understand him correctly he is saying that a distinction of reason allows us to distinguish between abstract notions and the Idea they apply to. Thus we can distinguish between the form of a globe of marble and the color of a globe of marble. Both the color and the form can be distinguished from the globe itself (the Idea of the globe). We can reason about these abstract notions but we cannot conceive of them as being separate.

A "distinction of reason" is not to be confused with distinguishing or separating two Ideas. In the latter case we could conceive of a green marble globe without conceiving of a black marble globe. This latter meaning is the operative one in Hume's claim that we can conceive of

something coming into existence without conceiving of its cause.

The question to pose Hume here is: are "existence" and "cause" Ideas, or are they abstract terms that apply to Ideas and may only be distinguished from Ideas in order to reason about them? If "existence," and "cause," are Ideas then Hume is right. I would claim that "cause," and "existence," are abstract notions or terms that apply (in Hume's world) to Ideas. "Cause," can be distinguished and separated from "existence," only in the same way "form," can be separated from "color."

Another point has been brought to my attention with reference to the drawings of M.C. Escher. I have copied here a drawing in which one hand is drawing another which in turn is drawing the first. Does this case refute the conceivability test because what was thought to be impossible is conceivable? I do not think so. A drawing of one hand drawing another is conceivable and it is possible. What I cannot conceive of is one hand causing another to exist while it is itself being brought into existence by the other hand (or better yet machine A manufacturing machine B while machine A is being manufactured by machine B). This is both impossible and inconceivable. It is this concept that gives the cleverness to Escher's drawings.



148 *Drawing Hands*, 1948
 Lithograph, 282 x 333 (11 $\frac{1}{2}$ x 13 $\frac{1}{2}$ "")
 Signed and dated: 1-48 MCE
 Book 1967, no. 69; Cat. 1968, no. 89

Triangle side view

I have included, on the same page, the side view of a triangle. Note that there is only one side and there are no enclosed angles. Is this possible? The drawing is possible and conceivable but it still is not possible that a triangle have less than three sides or less than three enclosed angles.

These drawings, but especially that of M.C. Escher, give a little more light to the disagreement I have with Hume as to the conceivability of the contrary of the causal principle. I think Hume is confusing conceiving of a visual image with the conceiving of an actual object. This is the same confusion as Escher's drawing brings to us. In conceiving of a visual image (of the contrary of the causal principle) perhaps Hume "sees" an object pop into view and not be immediately followed or preceded by its cause popping into view. Conceiving (of the contrary of the causal principle) in actuality would be more like having something pop into existence right in front of you and you not having the irresistible urge to ask, "Where did that come from?"

My answer then, to the question of this section, is that I do not think I am merely being stubborn in saying I cannot conceive of the contrary of the causal principle.

CHAPTER FOUR: CERTAINTY AS THE COMPARISON OF IDEAS

We have addressed one of Hume's two arguments against the intuitive certainty of the causal principle and now turn our attention to the second (they are actually in reverse order in the text). Hume asserts that there are only certain necessary relations between Ideas. Since the causal principle is not one of these relations it cannot be a necessary principle and cannot therefore be certain. The chapter will define Hume's terms and analyze his argument. To respond along the lines of Reid's argument we will need to return to the question posed at the end of chapter three: are the notions cause, and existence, abstract or are the particulars which can be said to exist in the same way that an Idea of a marble globe can be said to exist? Finally I conclude that Hume is not successful in the whole argument of the chapter.

Hume's Argument

All certainty arises from the comparison of ideas, and from the discovery of such relations as are unalterable, so long as the ideas continue the same. These relations are *resemblance, proportions in*

quantity and number, degrees of any quality, and contrariety; none of which are imply'd in this proposition, Whatever has a beginning has also a cause of existence. That proposition therefore is not intuitively certain. At least any one, who wou'd assert it to be intuitively certain, must deny these to be the only infallible relations, and must find some other relation of that kind to be imply'd in it; which it will then be time enough to examine (emphasis mine, Treatise of Human Nature p.79).

This is the argument as stated by Hume. Certainty has the same philosophical meaning we defined in the introductory chapter. Something is certain if it denotes a necessary truth (e.g. not both A and not-A). A relation is a connection between two Ideas. Relations are not to be confused with associations of Ideas. Associations refer to why one thought follows another in the mind.

Hume draws out seven relations of Ideas.

Resemblance: a chair in the studio resembles the table in that it is made of wood, it has four legs, etc.

Identity: the chair is same with itself, it is one chair, the chair across the room may resemble it exactly but that is a different chair.

Contiguity in time and space: when I say the chair is (spatially) contiguous to the table I mean that it is next

to the table; when I say my entering the room is (temporally) contiguous to my setting the pitcher of water on the table I am saying the one happened immediately after the other.

Quantity and number: I am sitting on a three legged chair, you on a four legged chair; my chair is large and yours is small.

Degrees of quality: your chair is a darker brown than mine, the back of your chair is higher than mine.

Cause and Effect: when I bumped the table, while changing positions, I caused the table to move; the movement of the table in turn caused the water to lap over the side of the pitcher.

Contrariety: the grandfather clock cannot both be in the room and not be in the room.

Hume distinguishes four of these relations from the other three. Four relations are necessary or unalterable. When is a relation unalterable? When the relation remains the same so long as the Ideas remain the same. If I quickly build up the back of my chair I have changed the Idea of my chair and the back of your chair is no longer higher than mine. The relation of the quality of the height of the back of our chairs has changed; but only because one of the Ideas has changed. Another example is the resemblance my chair has to the one in the corner (they look exactly the same).

I can move them close together or far apart but unless I actually change the chair (e.g. by banging it on the floor) I will not change the relation of resemblance. The four unalterable relations are resemblance, degrees of quality, quantity or number, and contrariety.

The contingent (alterable) relations can be changed without an actual change in the ideas. The relation of contiguity in space is changed if I move my chair away from yours; I have not changed either chair yet I have changed the relation. I could bump the table a second time and not cause the water to spill. The water might later spill in response to your abruptly lifting one end of the table. The two Ideas (bumping the table and the water spilling) have not changed yet the relation has. When I bumped the table and the water spilled they were in a relation of cause and effect. When I bumped the table the second time I did not cause the water to spill; your lifting the table caused the water to spill.

Hume's argument is that cause and effect is a relation of ideas but it is a contingent one. It is a relation which may be altered even if the ideas themselves remain unaltered. Suppose I get up to see the sun rise each morning. As dawn's rosy fingers stroke the hills the birds begin to sing: I have an Idea of sunrise and an Idea of birds singing. One morning I get up, the sun rises, but no

birds sing: they have all caught a nasty cold. My Idea of the sunrise and my Idea of birds singing remains the same but the cause and effect relation has changed. The causal relation is contingent since the Ideas can remain the same but their relation change.

In preparation for Reid's response I return to something we briefly touched on in the last chapter: Hume's distinction of reason. The distinction of reason denotes our ability to distinguish qualities or attributes from the Idea itself. Thus we can separate the form or the color of a black marble globe in our thinking and conversation. This is not to be confused with distinguishing the Idea of a globe from the Idea of a cube--they could both exist independently of each other. Form and color are not Ideas in exactly the same way that globes and cubes are. The color blue is a distinct Idea but there are no impressions of blue which are inseparable from an impression of a thing which is defined. A piece of paper can be blue, a stuffed animal, the sky; one could never have a simple impression of blue and blue alone. Such Ideas which can be distinguished from other Ideas by a distinction of reason are on a par with what Reid terms abstract notions, qualities, or attributes. Hume writes that we refer to them, by custom, with general terms. I think Hume mistaken to regard them as Ideas on the same par as Ideas such as "globe," and "cube."

I find him inconsistent in doing so having established the distinction of reason for I think such a distinction rides on the distinction between Ideas and qualities.

Reid: We Do Not Compare Ideas but Qualities, Attributes or
Notions

Reid attacks Hume's argument by attacking his claim that we attain certain knowledge by comparing Ideas. He addresses the theory of certainty as it was expressed by John Locke:

Mr. Locke adds, as the result of his reasoning, "Knowledge, then, seems to me to be nothing but the perception of the connection and agreement, or disagreement and repugnancy, of any of our ideas. In this alone it consists" (Essays on the Intellectual Powers of Man p.428)

Reid equates the perception of the connection and agreement, or disagreement of our Ideas with Hume's comparing of Ideas; they appear to be the same definition of knowledge.

Reid makes absolutely clear what he understands this to mean: "By perceiving the connection or agreement of two ideas, I conceive, is meant perceiving the truth of an affirmative proposition, of which the subject and predicate are ideas" (Essays on the Intellectual Powers of Man p.426). Such an affirmative proposition would be "One is a prime

number," "The whole is greater than the part." Reid adds that the comparison of these ideas is the only way to arrive at demonstrative evidence (certain, or necessary knowledge).

Up to this point Reid and Hume seem to be saying the same thing: certainty is gained by comparing ideas and discovering their necessary relations. The difference lies in their use of the term "Ideas". When Reid uses the word "idea," he means "quality, attribute, or abstract notion." When Hume uses the word "Idea," he means a particular impression such as a chair impression, a table impression, or a rising sun impression.

Reid's abstract notions do not exist-form, color, part, whole-do not exist. Objects exist-chairs, trees, birds, the sun-all exist. Hume's Ideas (in Hume's world) exist: "chair Ideas," "cow Ideas," and "sun Ideas," are the "stuff," of Hume's world.

Reid maintains that our knowledge is not about "Ideas," but about objects and their qualities. Reid does not even think there are such things as "Ideas." On this basis he discounts Hume's view of certainty.

In Reid's world the only certain knowledge we can have is about qualities and abstract notions. Objects have contingent relations: we can imagine a world in which they would not exist. We might say, "The cow is brown." This is a contingent truth-the cow could have been black. Qualities

such as form and color have necessary relations because they are always the same: roundness does not have sides, brown could not have been black.

Even if we allow Hume's Ideal world I think Hume mistaken about the source of certain knowledge. He maintains that certain knowledge comes via the comparison of Ideas. Suppose we think of Ideas as existing (as Hume does). Is it not true that each Idea may or may not have existed. It is not necessary that a particular "sun Idea," have existed. If the existence of Ideas is contingent then so is any relation they have to each other. We might say that our "sun Idea" is orange, or our "sun Idea," is large, but it may have been red and small. The relations between their attributes are not contingent: the orangeness of the sun could not have been red nor the largeness small.

What is existence? Is it a particular Idea that can itself be said to exist? No. Existence, and the beginning of existence, are both attributes of things we know through perception. The relation we are claiming is necessary is the one expressed by the causal principle. If, by our senses, we know that B begins to exist then we also know that B is causally related to some A. By the causal principle we infer the existence of a cause from the perception of the effect. The causal principle asserts that there is a necessary relation between any two particular

objects the one that begins to exist and the other, which also exists, is the cause of the first beginning to exist. The relation is between two particulars but the only particular specified is the beginning of existence in one and existence in the other (again, existence, and beginning to exist, are both abstract notions or qualities).

Hume's criteria of a necessary relation is that the relation changes only if either or both of the things being related change (in Hume's case it the things being related are Ideas). If we apply Hume's criteria to the causal principle, assuming that qualities of objects and not particular objects are being compared, we would ask: can something be brought into existence by something that does not exist? no. In other words can the causal relation between something that exists and something that begins to exist change only in such a case as those qualities change? The answer is yes thereby demonstrating that given Hume's criteria the causal principle qualifies as a necessary relation.

As you may have guessed Hume does not regard "existence," as a quality or abstract notion:

The idea of existence, then, is the very same with the idea of what we conceive to be existent. To reflect on any thing simply, and to reflect on it as existent, are nothing different from each other. That

idea, when conjoin'd with the idea of any object, makes no addition to it. Whatever we conceive, we conceive to be existent. Our foregoing reasoning concerning the distinction of ideas without any real difference will not here serve us in any stead. That kind of distinction is founded on the different resemblances, which the same simple idea may have to several different ideas. But no object can be presented resembling some object with respect to its existence, and different from others in the same particular; since every object, that is presented, must necessarily be existent" (emphasis mine, Treatise of Human Nature pp 66-67).

The distinction of reason is understood by the resemblance one object has to another. The form of a green globe resembles the form of a black globe. This resemblance leads us to extract or distinguish the quality of "form," or "roundness." Existence is a quality that every object has. Everything bears the resemblance of existence. Hume argues that because everything bears the resemblance of existence, existence is disqualified from being a distinction of reason. I see no reason why this should disqualify it from being a quality or abstract notion: a useful distinction of reason. In Reid's world of common sense I can point out a horse and I can ask you to imagine a centaur. The horse

exists but the centaur does not. Existence is an attribute that can be ascribed to some things and not to others. It is harder to show that existence is an attribute in Hume's Ideal world because he makes no distinction between what we perceive and what we imagine. In Hume's world what we perceive and what we imagine both exist. But I can ask him his own question, "If existence is an Idea then show me its corresponding impression?" He does not claim that there is such an impression but rather says that, "the idea of existence, then, is the very same with the idea of what we conceive to be existent" (Treatise of Human Nature p.66). If existence is not an Idea and yet it is something which is the same with every Idea then what could it be but an attribute? I do not know.

Hume has not satisfied me that existence is not an attribute, quality or abstract notion. Nor has he convinced me that certain knowledge comes from the comparison of Ideas (as opposed to attributes). Therefore I find his second argument against the causal principle to have failed.

CHAPTER FIVE: OUR NOTION OF CAUSATION IS NOT ADEQUATELY
ACCOUNTED FOR BY NECESSARY CONNEXION

Thus far we have examined the two arguments Hume gives against the intuitive certainty of the causal principle. Now we turn to what Reid describes as his "third argument." This is only indirectly an argument against the causal principle. It is actually Hume's account of our notion of cause (since he thinks he has shown that the origin of our notion of cause and effect is not the causal principle). After not finding an impression of cause Hume defines four elements of our notion of cause: contiguity in time and place, priority in time, constant conjunction (like causing like), and necessary connexion (a habit of the mind which carries the mind from cause to effect). After tracing Hume's path I will show where Reid and I agree with Hume (about particular causes leading to particular effects) and where we disagree (about the necessity of the causal principle).

Here follows Reid's account of Hume's explanation of the notion of cause:

The third argument is, That what we call a cause, is only something antecedent to, and always conjoined

with, the effect. This is also one of Mr Hume's peculiar doctrines, which we may have occasion to consider afterwards. It is sufficient here to observe, that we may learn from it that night is the cause of day, and day the cause of night: for no two things have more constantly followed each other since the beginning of the world (Essays on the Intellectual Powers of Man p. 457)

At first I found it curious that Reid should make this one of Hume's arguments since Hume does not mention it in his chapter, "Why a cause is always necessary." Reid seemed to be raising a red herring against the causal principle on Hume's behalf. Then I realized Reid did not raise red herrings, on Hume's behalf or his own (domesticated fish not being in vogue in 18th century Scotland).

As it turns out Reid is referring to the argument of the entire first book of Hume's Treatise. It was only when I came to this argument that I realized Hume's aim in the Treatise was to undermine the causal principle and set up a new account of human reasoning or understanding (and here I thought I was addressing one little chapter). Hume says as much in the following two quotes from the Treatise:

All simple ideas and impressions resemble each other; and as the complex [Ideas] are formed from them, we may affirm in general, that these two species of

perception are exactly correspondent. Having discover'd this relation, which requires no farther examination, I am curious to find some other of their qualities. Let us consider how they stand with regard to their existence, and which of the impressions and ideas are causes, and which effects.

The full examination of this question is the subject of the present treatise (emphasis mine, Treatise of Human Nature p.4).

The question of how we get our notion of cause and effect, then, is the subject of the Treatise. After having demonstrated that the causal principle was neither demonstrably nor intuitively certain Hume still had to account for why we (humankind) always look for a cause. He ends his chapter on the causal principle with an indication of setting out to look for what experience leads to the filling out of our concept of cause and effect:

The true state of the question is, whether every object, which begins to exist, must owe its existence to a cause; and this I assert neither to be intuitively nor demonstratively certain, and hope to have prov'd it sufficiently by the foregoing arguments.

Since it is not from knowledge or any scientific reasoning, that we derive the opinion of the necessity of a cause to every new production, that opinion must

necessarily arise from observation and experience. The next question, then, shou'd naturally be, *how experience gives rise to such a principle?* but as I find it will be more convenient to sink this question in the following, *why we conclude, that such particular causes must necessarily have such particular effects, and why we form an inference from one to another?* we shall make that the subject of our future enquiry (Treatise of Human Nature p.82)

This quote covers the ground we have just gone over above and in the preceding two chapters. "It is not from knowledge...that we derive the opinion of the necessity of a cause to every new production" (Treatise of Human Nature p.82). This refers to the attempts to justify the notion of cause and effect by demonstrative proofs and attempts to claim (as Reid does) that it is intuitively certain. The demonstrative proofs fail as Hume has shown. Thinking he has shown the causal principle to not be certain he ends the chapter with two questions which will guide the rest of his inquiry: 1. "Why [do] we conclude, that such particular causes must necessarily have such particular effects, and why we form an inference from one to another? [and] 2. How [does] experience give *rise to such a principle?*" (Treatise of Human Nature p.82)". These questions are the ones Hume spends most of the rest of book one trying to answer.

How Does Experience Give Rise to Such a Principle (the Causal Principle): Where Does Our Notion of Cause and Effect Originate?

Having ascertained that we do not have an impression of cause and effect (and therefore cannot have an Idea of it) Hume sets out to explain why we think in terms of cause and effect at all. He identifies four components of our concept of cause and effect: contiguity in time and place, priority in time, constant conjunction, and necessary connexion.

Hume's Definition of Cause

We may define a CAUSE to be 'An object precedent and contiguous to another, and where all the objects resembling the former are plac'd in like relations of precedency and contiguity to those objects, that resemble the latter.' If this definition be esteem'd defective, because drawn from objects foreign to the cause, we may substitute this other definition in its place, viz. 'A CAUSE is an object precedent and contiguous to another, and so united with it, that the idea of the one determines the mind to form the idea of the other, and the impression of the one to form a more lively idea of the other (Treatise of Human Nature p.170).

The first definition points out the three elements of contiguity, priority, and constant conjunction; the second definition draws attention to the habit of the mind in passing from cause to effect(i.e. necessary connexion).

Imagine a child (Ivan) thinking that putting a tooth under his pillow causes money to appear in the morning. Hume says that our expectation that a certain cause will always produce a certain effect is just our having formed a superstructure (the notion of cause and effect) to link four phenomena. Those phenomena are:

Contiguity in time and place

This means that the money is always in the same place that Ivan put the tooth the previous night (place). It also means that he finds the money there the next morning and not three weeks later (time).

Priority in time

Ivan always finds the money under the pillow after he puts the tooth there and never before.

Constant Conjunction "every object like the cause, produces always some object like the effect" (p.12 reference is made to An Abstract of A Treatise of Human Nature. reprinted with an introduction by J.M. Keynes and P. Sraffa, Cambridge: University Press, 1938.)

Ivan has put molars as well as his chewing teeth and they all cause money to appear under his pillow. Now sometimes

the money has been in bills, sometimes in quarters and sometimes in rolls of pennies (he discovers these earlier in the morning due to difficulty of sleeping on them) but he always finds U.S. currency.

Necessary Connexion

Hume writes that:

The necessary connexion betwixt causes and effects is the foundation of our inference from one to the other. The idea of necessity arises from some impression. There is no impression convey'd by our senses, which can give rise to that idea. It must, therefore, be deriv'd from some internal impression, or impression of reflexion. There is no internal impression, which has any relation to the present business, but that propensity, which custom produces, to pass from an object to the idea of its usual attendant. This therefore is the essence of necessity. Upon the whole, necessity is something, that exists in the mind, not in objects; nor is it possible for us ever to form the most distant idea of it, consider'd as a quality in bodies. Either we have no idea of necessity, or necessity is nothing but that determination of the thought to pass from causes to effects and from effects to causes, according to their experienc'd union (emphasis mine, Treatise of Human Nature p.165).

Hume is relegating our penchant to request a cause for every existence to a mere habit our mind has developed. I have acquired the habit of thinking that if I step off a ledge I will fall to the ground, and if I put bread in the toaster it will come out toast and not an ice cream sundae.

Hume's point is that Ivan has done this so many times, observed these three circumstances each time (contiguity, priority, and constant conjunction), that he now thinks putting his teeth under his pillow actually causes U.S. currency to appear there the following morning (necessary connexion). Ivan thinks this because his mind is determined by habit to connect a tooth under his pillow with the appearance of US currency. But this connection is not necessary: the next time his money might be in the ice box on the next full moon instead of the next morning; he may find money there a week and a half before he loses a tooth; he may discover that he can put his newly purchased false teeth or even a small pencil case under the pillow with the same result; or that putting his last tooth under the pillow results in finding Lira, Yen, or the Reader's Digest large print version of "Shopping Lists for the Discrete Mathematician."

Having found and justified this definition of cause Hume nails the lid on the casket of the causal principle:

We may now be able fully to overcome all that repugnance, which 'tis so natural for us to entertain against the foregoing reasoning, by which we endeavour'd to prove, that the necessity of a cause to every beginning of existence is not founded on any arguments either demonstrative or intuitive. Such an opinion will not appear strange after the foregoing definitions. If we define a cause to be an object precedent and contiguous to another, and where all the objects resembling the former are plac'd in a like relation of priority and contiguity to those objects, that resemble the latter; we may easily conceive, that there is no absolute nor metaphysical necessity, that every beginning of existence shou'd be attended with such an object. Such an influence on the mind is in itself perfectly extraordinary and incomprehensible; nor can we be certain of its reality, but from experience and observation (emphasis mine, Treatise of Human Nature p.172).

Where Reid and I Agree with Hume

Reid agrees that there is only a great degree of probability that the future will resemble the past (remember probability = contingency, probability does not = uncertainty). That is why Reid makes the principle of the

uniformity of nature, one of his contingent first principles rather than a necessary one. His statement of it is: "That, in the phaenomena of nature, what is to be, will probably be like to what has been in similar circumstances" (Essays on the Intellectual Powers of Man p.451).

One way to understand this is to think of it as $C_1 \rightarrow E_1$ (a particular cause gives rise to a particular effect) being a posteriori knowledge drawn from experience. This means that the connection we have formed, between a specific or particular cause and a particular effect, is learned by experience. It is by experience that we know that fire is hot and will burn. It is by experience that Ivan came to associate the putting of his teeth under his pillow with finding money there the next morning.

Because these particular connections are learned from experience they are not on the same level of logical certainty as, say, the principle of non-contradiction (that both A and not-A is impossible). Both Reid and Hume know that when they next hit a billiard ball with a pool cue it will glide across the table. It is logically possible, however, that the ball may remain stationary, fly into their face, or write a letter to their congressman. Reid and Hume know this will not happen but not in the same way that they know two plus two equals four and will always equal four.

Where Reid and I Disagree with Hume

Hume claims that the notion of cause and effect comes from four elements: contiguity in time and space, priority in time of the cause to the effect, constant conjunction and necessary connexion. Reid thinks that, underlying the connecting of a particular cause to a particular effect (the uniformity of nature), is the intuitive certainty that whatever exists must have a cause. It is helpful to think of it like this: $C_1 \rightarrow E_1$ (a particular cause gives rise to a particular effect) is derived from the general causal principle which is $E_n \rightarrow C_n$ (every particular effect has a particular cause). The causal principle implies that whatever begins to exist must be an effect and that effect will have a cause. The causal principle does not claim to give knowledge of what particular cause is responsible for what particular effect but merely that there must be a cause for every thing that begins to exist.

Reasons Why Hume's Account of Our Notion of Cause and Effect Falls Short

Reid argues that the principle cannot originate from the source Hume identifies (necessary connexion and constant conjunction) for several reasons. Firstly, the principle

Is not that things which exist commonly have a cause, or even that they always in fact have a cause; but that

they must have a cause, and cannot begin to exist without a cause. Propositions of this kind, from their nature, are incapable of proof by induction.

Experience informs us only of what is or has been, not of what must be; and the conclusion must be of the same nature with the premises. For this reason, no mathematical proposition can be proved by induction.

Though it should be found by experience in a thousand cases, that the area of a plane triangle is equal to the rectangle under the altitude and half the base, this would not prove that it must be so in all cases, and cannot be otherwise...In like manner, though we had the most ample experimental proof that things which have begun to exist had a cause, this would not prove that they must have a cause. Experience may show us what is the established course of nature, but can never shew what connections of things are in their nature necessary. (Essays on the Intellectual Powers of Man p.455)

Secondly: "General maxims, grounded on experience, have only a degree of probability proportioned to the extent of our experience, and ought always to be understood so as to leave room for exceptions, if future experience shall discover any such" (Essays on the Intellectual Powers of Man p. 455). The causal principle is no such general maxim. In

the case of probabilities, the confidence of probability is proportional to evidence for/evidence against ratio. If we saw a coin land heads up 50% of the time and tails up the other 50% our certainty of it landing heads up would be proportional to our previous experience. Suppose we found 100 people dead on the side of the road (at different times) but we only found the cause for fifty of the deaths. We would still know that there was a cause for the other fifty deaths. We have no doubt about this. If I came home and found my house to be broken into yet could not find a culprit I would not conclude there was not a cause. Even if this happened every day for three years I would not conclude that there was no cause for it. I would move to LA, hire a Doberman pincer and become a Hare Krishna before concluding that there is no cause for it.

Thirdly, why would we ever group these three things (contiguity, priority, and constant conjunction) together to begin with? Why would we ever form the habit of mind of going from the cause to the effect or the effect to the cause? This is one of my arguments against Hume's proposed notion of cause and effect. He has given an alternative, to the causal principle, to explain the origin of our notion of cause and effect. Yet his answer is not satisfactory for while it proposes components of our notion of cause and

effect it does not way why we ever group these components together.

Reid offers a fourth argument against explaining our notion of cause and effect as the habit of jumping from one Idea to another which is contiguous, comes after, and is constantly conjoined to the first. Reid notes that night is contiguous to day, always succeeds it, and the two are constantly conjoined yet our mind does not have the habit or custom of associating the two as cause and effect. Reid gives no explanation for why we can distinguish causally related things from others which follow each other. Reid's point is that Hume's description of cause and effect does not account for how we distinguish causal relations from coincidental relations.

Hume's account of our notion of cause and effect is not at all convincing. Reid's objections reveal numerous deficiencies. Indeed his observations give good reason to think the causal principle cannot be learned from experience but must be intuitively certain.

CHAPTER SIX: THE CAUSAL PRINCIPLE, THE PRINCIPLE OF
SUFFICIENT REASON, AND THE COSMOLOGICAL ARGUMENT

Having addressed Hume's arguments against the causal principle and his account of our theory of causation I have shown that his reasonings are off the mark: they neither refute the intuitive certainty of the causal principle nor do they give a sufficient account of the notion of cause and effect. I have not demonstrated the certainty of the causal principle. To do so would be impossible if it is truly an intuitively certain principle. What is intuitively certain is by definition not demonstrably certain. What is intuitively certain forms the basis for all the rest of our demonstration. Circumstantial evidence, ad absurdum arguments (assuming the contrary and showing it leads to contradiction with another certain principle) and ad hominem arguments (e.g. showing that a persons denial of the principle contradicts their affirmation of another principle) can be given for intuitively certain principles. I have given several such arguments in chapter five and Reid gives several more in his Essays.

Now we turn our attention to how the causal principle could be used to gain metaphysical knowledge (knowledge

beyond what we perceive by our senses). First I turn your attention to the relation of the causal principle to the principle of sufficient reason. Secondly we will explore the relation of the principle of sufficient reason to the Cosmological Argument for the existence of God. It is the scope of another paper to answer the objections raised by the principle of sufficient reason and the Cosmological Argument. For this reason I am not claiming to have demonstrated the certainty of either but merely to have shown their connection to the causal principle and indicated to the reader the possible direction of metaphysical reasoning.

The Causal Principle and the Principle of Sufficient Reason

Reid argues that we have a notion of cause as an intuitively certain first principle. I agree with Reid. I add that there is something else which allows us to distinguish between mere constant conjunction and causal relations. Remember that Reid mentioned night and day as a counter example to Hume's theory of causation. He did not, however, indicate what it is in his notion of cause that allows us to distinguish the one from the other.

The criteria that distinguishes causal relations from coincidental relations is the cause's sufficiency to the effect: it must have been able to cause the effect. This is

what allows us to distinguish superstition from causal reasoning. Breaking a mirror does not cause eight years of bad luck; committing a major felony might. It is not the lack of a human sacrifice but some natural cause that gives rise to a bad weather pattern that causes the crops to spoil.

Another thing the causal principle does not account for is our ability to eliminate irrelevant variables in searching for a cause: the tornadoes in Bangladesh did not cause someone to die in the hospital in Eugene. The particular day of the week (e.g. Tuesday vs. Wednesday) had no causal relation to the tidal movements. Contiguity, priority, and constant conjunction are part but not all of what helps us eliminate irrelevant variables.

The operative principle above is the principle of sufficient reason (PSR): everything that exists must have a sufficient cause for its existence. I think PSR is an intuitively certain principle for much the same reasons as the causal principle: though we could learn that some variables were to be eliminated as possible causes to an observed effect there are so many variable that experience alone could never teach us to discern a cause; Experience alone could never teach us that night is not the cause of day nor is day the cause of night; the principle (PSR) states that all causes must be sufficient to their effects,

not that they always in fact are sufficient, or that they are commonly are sufficient, principles of this kind are incapable of proof by induction-experience informs us of what has been, or what is, but not of what must be; again, maxims grounded on experience are as probable as our experience of them, though I did not find a sufficient cause of death in examining 1000 bodies I would expect there to have been one in all of them and would look for one in the next body I examined.

PSR is the parent of the causal principle. It includes both the causal principle and the condition of sufficiency. PSR also makes a claim as to the cause or reason for the existence of something that has always existed. This is not to be confused with something causing itself to come into existence. If something has always existed then it is either sufficient to sustain its own existence or something else has continually sustained its existence. That we operate on the assumption that all of existence must have a cause (including what never began to exist) is not as readily apparent. Maybe our search for first causes is evidence of it. We seem to be fully convinced that those things whose beginning we did not witness require a cause of their existence.

I point to these evidences because I hold the principle of sufficient reason to be intuitively certain and not known

a posteriori. I claim that it is a necessary principle that is not demonstrable because it is a first principle or axiom of reason. The principle of non-contradiction (not both A and not-A) is another such principle. In my estimation the greatest challenge to PSR is the conceivability test Hume levels at the causal principle. His test fails in refuting PSR for the same reason it fails in refuting the causal principle.

PSR and the Cosmological Argument for the Existence of God

The form of the cosmological argument I am most familiar with is the one considered by William Rowe in his book, The Cosmological Argument. He uses a simplified version of one put forth by Samuel Clarke (1675-1729) which incidentally, is the form with which Hume was acquainted.

1. Every being (that exists or ever did exist) is either a dependent being or a self-existent being.
 2. It is impossible that every being is a dependent being.
- Therefore
3. There exists a self-existent being.

Definitions:

Self-existent being: a being which is itself the reason or sustaining cause of its own existence.

Dependent being: a being which is not itself the reason or sustaining cause for its own existence.

Both premises require some form of PSR. The first premise requires only the form given above, namely, that there must be a sufficient cause for anything that exists: a being cannot exist uncaused; it must be self caused or caused by another. The second premise requires one of two things: 1. A stronger form of PSR which asserts that every positive fact (in which the predicate claims rather than negates something of the subject) requires a cause. This would require a cause for the set of dependent beings even if they regressed in infinitum. The second possibility is to show that an infinite regress of dependent beings is impossible (or that the universe had a beginning to its existence). I believe this is what William Lane Craig has attempted to do in his book, The Kalam Cosmological Argument.

The conclusion of the Cosmological Argument still allows for two possible self-existent beings, the universe or an intelligent being, as the ultimate cause for our existence. PSR again requires that the cause be sufficient to the effect. One of Reid's other necessary first principles (also based on PSR) is that design or intelligence in the effect requires design or intelligence

in the cause. If so then this would require that the self-existent being be intelligent since some of the dependent beings have intelligence. Such an intelligent being is what I understand to be God.

These are all questions which deserve to be explored, along with other objections, more fully in other philosophical papers.

Conclusive Conclusion

I close with a quote from Hume:

I shall add as a fourth corollary, that we can never have reason to believe that any object exists, of which we cannot form an idea. For as all our reasonings concerning existence are deriv'd from causation, and as all our reasonings concerning causation are deriv'd from the experienc'd conjunction of objects, not from any reasoning or reflexion, the same experience must give us a notion of these objects, and must remove all mystery from our conclusions. (Treatise of Human Nature p.172)

Hume is claiming to have shown, through his explanation of cause and effect, that we cannot have metaphysical knowledge: we cannot have knowledge (even probable knowledge) of the existence of an external world, of the existence of mind, or of the existence of God. In other

words he is trying to show that we can only have knowledge of the existence of that which we can perceive. If my reasoning is correct, in book one of his Treatise, he fails dismally in this endeavor.

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