When we hunt for experiments to glean some understanding of what Hume means by subtitling his Treatise "An Attempt to introduce the experimental Method of Reasoning into Moral Subjects," we find him pressing "one eye with a finger" to discover that "we immediately perceive all the objects to become double." This seems so simple as to be simple-minded, and yet, I shall argue, in introducing the experimental method into moral subjects, Hume is doing nothing less than providing a new conception of reason to displace the Cartesian: we are reasoning animals.

To this end, Hume provides a new analysis of what it is to reason, an analysis that implies, among other things, that a single mode of reasoning—causal—is appropriate for everything that exists and that we can subject our reasoning to critical scrutiny. But it is an impediment to getting to these implications that Hume's experimental method in the Treatise looks to be trivial. We can only understand how it is not, I suggest, by seeing it against the background of the Cartesian conception of reason. Let me begin with an apparently trivial set of experiments Hume proposes.

1. Pride and Humility, Love and Hate

In Book II, Hume runs through a set of what he calls experiments to confirm that the passions of pride and humility, and of love and hatred, bear "a double existence, viz. of ideas to the object of the passion, and of sensation to the passion itself." Hume asks us to suppose, in his "First Experiment" that "in company with some other person, there is an object presented, that has no relation either of impressions or ideas to any of these passions." Let it, he suggests, be "an ordinary stone, or other common object, belonging to neither of us, and causing of itself no emotion, or independent pain and pleasure." "Tis evident," he concludes, "such an object will produce none of these four passions." He produces seven more experiments in this fifteen-page section, all of the same sort.

These experiments are puzzling because, again, their simplicity seems simple-minded. If we consider a stone that bears no (causally relevant) relation to our passions of pride or humility, love or hatred, no experiment is needed to prove it will not produce any of those passions. One thing produces another only through a causal relation, and causation is a relation
of relations: no causally relevant relations, no causal relation. The "experiment" looks specious because it seems window-dressing for an argument from the nature of relations: is Hume using an experimental method of reasoning or arguing a priori?

Yet the form of these supposed experiments is important. Each is an attempt to isolate a causal variable to see if it makes a difference in producing any of the four passions. So, in his second experiment, Hume considers a stone that belongs "either to me or my companion" and suggests that, if that is the only relation it bears, it will produce no passion. The eight experiments run through each of the causal variables that matter to the claim that "nothing can produce any of these passions without bearing a double relation." Similarly, the experiment of pressing one's eyeball is meant to isolate a causal factor relevant to the production of visual perceptions: pressing one's eyeball can produce two perceptions only if visual perceptions are dependent somehow upon one's eyeball.

My concern is with the form of Hume's experiments and with what may seem an odd question: "What makes such causal experiments possible?"

2. The Cartesian Conception

I ask the question because within the Cartesian view of the world, such experiments are not possible. To understand why we need to sketch the Cartesian program.

In his Description of the Human Body and of All Its Functions, Descartes explains why blood is red. He says that "light is simply the pressure of the material of [what he calls] the second element" and that this material is composed of many small balls which are in mutual contact; and we have sensory awareness of two kinds of motion which these balls have. One is the motion by which they approach our eyes in a straight line, which gives us the sensation of light; and the other is the motion whereby they turn about their own centres as they approach us. If the speed at which they turn is much smaller than their rectilinear motion, the body from which they come appears blue to us; while if the turning speed is much greater than that of their rectilinear motion, the body appears red to us. In this example we find the essential elements of the Cartesian vision of the world and of our place in it. Whatever we think of Descartes's claim that difference in rotation makes the difference to things being blue or red, the vision is clear.

First, we are to explain the phenomena of the world by determining the quantifiable features of its extended parts. To understand why something is red, for instance, is to understand how various motions of substances move other substances. The physical world is amenable to mechanical explanations, and a proper explanation lets us understand how, upon the occurrence of one motion, another motion must occur—just as we understand why "the slightest motion of [the tip of the quill] cannot but be transmitted simultaneously to the whole pen" or why "when you pull one end of a string, you cause a bell hanging at the other end to ring at the same time."

Second, such explanations exhaust what can be known about the world. Descartes sets out to explain why blood is red and yet tells why it appears red to us. The implication is that such judgments as "Blood is red" are false. He has an explanation for this. We have minds capable of God-like clarity of comprehension, encased in bodies since our birth. Because of our long associations with our bodies, we come to have such prejudices as that air is nothing or that blood is red, and it is only through overcoming our prejudices, disentangling our judgments from their dependence upon our histories within our bodies, that we can come to know the truth. Reason sets us free.

The limits of this vision are clear in The Passions of the Soul. Descartes says that pride, for example, "is a kind of joy based on the love we have for ourselves" and that joy "is a pleasant emotion which the soul has when it enjoys a good which impressions in the brain represent to it as its own." He then explains the bodily accompaniments of joy, such as "the pulse [being] regular and faster than normal, but not so strong or full as in the case of love," and laughter, which he says "is just this facial expression, together with the inarticulate and explosive sound" that is produced "when the blood coming from the right-hand cavity of the heart through the arterial vein causes the lungs to swell up suddenly and repeatedly, forcing the air they contain to rush out through the windpipe."

Having defined pride as a kind of emotion of the soul, Descartes provides mechanical explanations of the physical accompaniments of the emotion: the only acceptable form of explanation precludes any explanation of pride itself. Minds are not extended, and so we can provide no causal explanation of its properties—like pride—of the sort we can provide for the properties, like color, of physical objects. Joy, Descartes says, is a property the soul has when it "enjoys a good which impressions in the brain represent to it as its own." However one understands the relations these words express and imply, we cannot understand the relation of pride to its physical accompaniments in the way we understand how "we make one end of a cord move by pulling the other end."
3. Hume's Attack

We can understand now what Hume is about in the Treatise with those apparently simple-minded experiments. They are simple and are thus powerful illustrations of what Descartes's vision of the world makes impossible. Hume's philosophical enterprise is a sustained attack on Cartesianism and a sustained attempt to replace its vision of reason and of the world with a conception of us as reasoning animals—a conception that provides a single mode of reasoning, causal, which covers everything that exists from the "small balls" that produce light to the "objects" that produce pride. He makes two moves.

First, the Cartesian conception of the world is mistaken. Descartes thinks that we can come to understand the world in the way in which he thinks we understand such simple connections as how "the movement or resistance of the bodies encountered by a blind man passes to his hand by means of his stick."\(^7\) We fully understand how one thing causes another to occur, Descartes thinks, only when we understand how the one event must cause the effect to occur, but, Hume argues, causal events are temporally successive, and even Descartes would agree that there is no necessity that when one event occurs, another event must occur.\(^8\) After all, Descartes thinks that God recreates the world from instant to instant,\(^9\) and even were it an eternal truth for Descartes that God does that—and it is not—Descartes thinks that God is not constrained by eternal truths.\(^10\) So, Hume concludes, even in the best of cases—like making "one end of a cord move by pulling the other end," in which we have a cause and an effect that, we would think, must be connected necessarily—they are not necessarily connected. The contingency of the temporal succession of events means all causal relations are contingent: it is false that one end of a cord must move when the other end is pulled.\(^21\)

Indeed, Hume argues, in the second place, it is only because we have histories that we are able to make causal judgments at all. Two striking examples make clear this point and its intended target.
He thinks Boyle and Newton used so successfully to understand the physical world can be used to understand the mental. His "experiments," which may strike the modern eye as odd, because so simple and obvious, are counter examples—just as the vision of Adam being unable to reason is a counter example—the very simplicity pushing home the point of Hume's enterprise. Pride is as much an existent in time as anything in the physical world and is causally related both to its object and to its sensation just as the redness of blood is causally related to the material of which it is made and to us. To understand pride, we need not suppose a soul, having a pleasant emotion oddly related—by "enjoyment"—to the brain's impressions. A human being is a reasoning animal, not a body and a soul, and we humans can reason causally about anything and everything in the world. The world is of a piece, and so are Hume's works.

4. Causal Reasoning about the World

Hume's experiments in the Treatise ought thus to be seen as precursors of more extended examples in his later writings. In his essay "That Politics May Be Reduced to a Science," he argues, "So great is the force of laws, and of particular forms of government, and so little dependence have they on the humours and tempers of men, that consequences almost as general and certain may sometimes be deduced from them, as any the mathematical sciences afford." He goes on to argue that the forms of government in Poland and Venice are the causal results of the different power bases of princes of the countries. Whether one agrees with his analysis or not, it is meant to show that, with the proper causal reasoning—experimenting with how different forms of government relate to different bases of power of citizens—we can find general causal laws of a high degree of certainty in politics.25

Similarly, in his Histories Hume argues that Cromwell's revolution in the 1600's was the causal result of particular structural weaknesses in the British political system. Again, one may object to the details of the analysis, but its form is causal, illustrating Hume's point that all reasoning of matters of fact is causal and rests on general principles. The Histories are an attempt to introduce proper causal reasoning into a subject previously fraught with political ideology.

Examples abound of Hume's picking an area not previously permeable to causal reasoning, showing that it is, and showing how our judgments would be much improved were we to examine more carefully the evidence upon which they are based and use proper causal principles to amend them.

"Of the Balance of Trade" and "Of the Jealousy of Trade" are an attempt to replace chauvinistic reactions to problems of international commerce with a response based on the causal principles that regulate our commercial relations. The Dialogues can be read (and taught) as a treatise in inductive logic, with each dialogue building on the criteria for causal reasoning explored in its predecessor. "Of miracles" can, and should, be read as a treatise on how it is that "[a] wise man ... proportions his belief to the evidence."26

It should not occasion surprise that Hume applies causal reasoning to various areas of life: every matter of fact that is not a direct observation can only be supported by causal reasoning. But far from undermining our claims about what we do not observe, proper causal reasoning, as these examples show, can provide us with proofs—with as much certainty, that is, as the subject matter permits. Not only does causal reasoning extend to all matters regarding the world, it does not thereby subvert our understanding of the world, but underpins it with general principles—laws "as general and certain ... as any which the mathematical sciences afford us."

Proving this claim about Hume will require much more than I have provided here—including an extended analysis of his theory of causal inference, showing how neither his naturalism nor his skepticism about causal reasoning makes it immune to criticism. By beginning this long enterprise where Hume began, in the Treatise, showing that Hume's "experiments" are not as simple-minded as they appear, I hope one impediment to this project has been removed.

Notes

2 See John B. Stewart, Opinion and Reform in Hume's Political Philosophy (Princeton: Princeton University Press, 1992), esp. e.g. pp. 7-8 for a statement of how this view applies to Hume's political writings. For a sketch of the view, with some of its philosophical and historical underpinnings and implications noted and elaborated, see Annette Baier, "Real Humean Causes," in Central Themes in Early Modern Philosophy, ed. J. A. Cover & Mark Kulstad (Indianapolis: Hackett Publishing Co., 1990), pp. 245-271.
3 Treatise, op. cit., p. 333 (Book II, Part II, Section II).
4 Ibid.
5 Ibid.
The Cartesian argument is that the small balls can only have two motions, that from one place to another and that in place. The former explain why we see light, and so the latter must explain such other differences as e.g. color. Malebranche, for instance, thought that Descartes should have pushed his vortex theory farther, arguing that only if the small balls are vortices are there enough features to explain all the differences that need explaining (see Nicolas Malebranche: The Search After Truth and Elucidations of the Search After Truth, ed. T. Lennon & P. Olschamp (Columbus: Ohio State University Press, 1980), pp. 692ff).

As Hume puts the Cartesian point, "So strong is the prejudice for the distinct continu'd existence of [colours, sounds, heat and cold], that when the contrary opinion is advanced by modern philosophers, people imagine they can almost refute it from their feeling and experience, and that their very senses contradict this philosophy" (Treatise, op. cit., p. 192).

Daniel Gerber says that Descartes's view is that "just as God could have created this mind without that body, he could have created the world up to a given time without creating anything that follows, and he could create any individual portion of time without creating any others" (Descartes' Metaphysical Physics (Chicago: University of Chicago Press, 1992), p. 264).

This appears in the Meditations, when he notes in Meditation Three that I do not derive my existence from myself (Op. cit., p. 133), but it also functions crucially in Cartesian physics. See the Principles (Ibid., p. 240) and The World, trans. M. S. Mahoney (New York: Arabis Books, 1979), pp. 59ff. It is a view he held throughout his philosophical career and one that was not idle, for in The World, for instance, he tries to justify his three main natural laws by an explicit appeal to the claim that God continually recreates the world in an act of preservation only conceptually different from His original act of creation, and he claims that all other natural laws equally depend upon this claim. For this last point, see Gerber, op. cit., Chapter 9.

This is a conception of Hume on causation directly at odds with that being hawked by e.g. Galen Strawson (The Secret Connexion (Oxford: The Clarendon Press, 1989). A proper refutation of that view obviously requires more detail than I can provide here, but the view depends upon ignoring one of Hume’s two main arguments regarding causal inferences, that dependent upon his claim that whatever is distinct is separable.

John Danford is the only commentator I know who has caught that the critical object of the passage is Descartes, though he is hesitant enough to introduce his comment with 'In what seems like a direct rejoinder...' (David Hume and the Problem of Reason (New Haven: Yale University Press, 1990), pp. 59-60).

The series of political essays beginning with "Of the First Principles of Government" are a sustained, and prescient, examination of how the configuration of the British political system will change as the monarchy loses its power to hold in check Parliament, which controls the purse.

Enquiry, op. cit., p. 27.