Causation

Part IIIc of *An Essay on Metaphysics*

R. G. Collingwood

1940

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Contents

Preface

R. G. Collingwood's *Essay on Metaphysics* (1940) consists of three parts:

(I) Metaphysics,
(II) Anti-Metaphysics,
(III) Examples.

The last part itself consists of three parts:

(A) The Existence of God,
(B) The Metaphysics of Kant,
(C) Causation.

The present document consists the six chapters of Part C of Part III, along with some notes of my own, written in the ongoing process of understanding Collingwood's text. I do this work as an *amateur* of philosophy. My formal connection to the subject comes only through completing the undergraduate "New Program" at St John's College [42]. I also have the degree called Doctor of Philosophy; but the degree is actually in mathematics.

The Introduction of the present document is one of the notes just mentioned. The chapters of the Appendix are more notes. Otherwise, my notes are footnotes, of three kinds:

1) on ideas, numbered consecutively throughout the document by Arabic numerals: 1, 2, 3, 4, . . . ;
2) on typography, numbered consecutively by italic minuscule Latin letters: *a, b, c, d,* . . . ;
3) on notes themselves, numbered by minuscule Roman nu-

merals: i, ii, iii, iv, . . . [a]

Collingwood's own footnotes are marked now by symbols (∗ and †)—there are nine in all, and originally they were marked by Arabic numerals, starting with 1 on each page (and only one page had a second footnote).

A revised edition of the *Essay on Metaphysics*, "with an Introduction and additional material edited by Rex Martin," was published by Oxford with the following notice:

First edition © Clarendon Press 1940
Revised edition © Teresa Smith 1998; introduction and new annotation © Rex Martin 1998

Teresa Smith is Collingwood's daughter. I possess the revised edition of the *Essay* in the paperback version published in 2002 [12]. The editor's Preface reports, "the original text . . . has been left completely unchanged, including even the pagination." Those original page numbers are bracketed and bolded in the transcription below, which is of the original pages 285–343.[b] I make no use of these numbers though; any references

[a]For the multiple footnote sequences, I use the `bigfoot` package for LaTeX, based on the `manyfoot` package. The latter is documented as part of the bundle called `ncctools`. For reasons unknown to me, footnotes can be needlessly split across two pages.[i] Without `bigfoot`, the LaTeX default is to number footnotes by chapter. With `bigfoot`, this does not happen; if one wants it to happen, one can use the commands of the `chngcntr` package. I do not find these matters discussed in the `bigfoot` or `manyfoot` documentation.

[b]Each chapter of the original text begins on a new page, and a number is not printed on this page; neither then is its number given in the transcription.

[i]There can be other difficulties, as when a footnote that *must* be broken between pages seems not to be broken in the best place. This may

made by me to passages of the present text use the present pagination. When Collingwood himself refers to such a passage, as on pages 68 and 92, I have added in brackets the page of the present edition. There are also some references, by Collingwood and by me, to pages of the *Essay* that are not in part IIIc; these can only use the original pagination, which might overlap with the pagination of the present document.

My comments on Collingwood's work, in the footnotes numbered by Arabic numerals, were originally heavier in the earlier chapters of the text, because here is where the *moral* implications are stronger, and these implications are my main interest. Since the original draft of this document though, I have spent some time looking back at Newton's *Principia* because of Collingwood's discussion in Chapter XXXII. For Chapter XXXIII, one should consider Kant more carefully than I have done so far.

In Chapter XXXIV, Collingwood cites several philosophers of his day, but I have not looked up their work for myself. Their misunderstanding of metaphysics and its relation to science may be a moral error, but I am not sure how important their specific error is today. We have other errors or misunderstandings involving science. These are themes of Robert Pirsig's *Zen and the Art of Motorcycle Maintenance* [43] and Mary Midgley's *Evolution as a Religion* [36], to name two books I know and like.

I am interested in questions of *responsibility* as raised by Collingwood's consideration of cause. Bill Watterson considers it in the four panels of *Calvin and Hobbes* for February 15, 1995 [52, Book Three, page 340], where the first title character watches television and remarks:

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have to do with the normal page-breaking algorithm implemented by the `KOMA-script` document class that I use.

1. Graphic violence in the media.

2. Does it glamorize violence? Sure. Does it desensitize us to violence? Of course. Does it help us tolerate violence? You bet. Does it stunt our empathy for our fellow beings? Heck yes.

3. Does it **cause** violence? . . . Well, that's hard to prove.

4. The trick is to ask the right question.

Perhaps the notion of "cause" used here (and emphasized in the original) is influenced by science. More precisely, it may be influenced by a conception of science that is either obsolete or ill understood. There are more examples in some of the notes.

Introduction

The mode of inquiry that gives a name to Aristotle's *Metaphysics* is the **historical science of absolute presuppositions.** So argues Collingwood in *An Essay on Metaphysics.* The part of the *Essay* on causation is an example of doing metaphysics in this sense.

Every question has its presuppositions. These are usually answers to logically prior questions; but if they are not, they are **absolute presuppositions.**

Certain absolute presuppositions may be specific to a particular mode of inquiry. To the scientist engaging in that mode of inquiry, the presuppositions are unquestioned; however, a person is not simply a particular kind of scientist. One may step back as a philosopher, to identify the absolute presuppositions of oneself or others through **metaphysical analysis.** Some kind of unease may have driven one to engage in this analysis. The unease may be due to a conflict in one's presuppositions. In this case, when they are recognized, they will go away.

The term "metaphysical analysis" is Collingwood's. The analogy with psychoanalysis is patent; however, Collingwood does not spell it out, though he underwent fifty sessions of analysis in 1938 [17, p. 240].

Being metaphysics in Collingwood's sense, our analysis of causation (as we follow along with Collingwood) will be historical. We use the word "cause" in at least three senses, which are historically related. Our concern is with the senses, not the word itself, in whose place we may use others such as "force" with similar senses. Getting the senses straight should improve our practice of science.

In the original sense, it is **actions** that have causes. We perform an action—we *act*—when we

(1) find ourselves in a situation, and
(2) intend to create a new one.

These two factors compose the **cause in sense I** of our action. If the finding and intending are our own work, then we are the cause of our own action. Some other person may also be the cause, either by giving us to understand our situation, or persuading us to form an intention about it.

If the situation that we want to create is, for example, an illuminated room at night, then we may learn to achieve this by throwing a switch on the wall. In sense I, *we* are the cause of the illumination; but the **cause in sense II** is the switch. Metaphorically, at least, we transfer our agency to the switch.

A cause in sense II is something in nature that we can use to bring about something else. A virus causes a disease in this sense, provided we can do something to prevent infection, or perhaps create it. If we can neither cure nor induce the disease, it has no cause in sense II.

Practical science seeks causes in sense II through *experiment,* as distinct from mere observation. Once discovered, a cause in sense II will be expressed *universally*: "E always results from C."

Different persons will recognize different causes of the same effect, depending on what those persons can severally accomplish regarding that effect. This is the principle of **relativity of causes.**

One may however wish to rise above this relativity, assigning to each individual effect a unique cause. This then is a **cause in sense III.** The concept is ultimately incoherent, since there is no way to account for the necessity with which the cause is supposed to produce the effect.

1. This necessity is not mathematical, since we do not believe that conclusions about the world can be inferred without experiment.
2. Neither is experiment enough: if something happens n times, we still need a reason to conclude that it will happen again.

The idea of necessitation—causation, compulsion—in the natural world is a remnant, a "survival," of Neoplatonism, whereby God creates agents in the world to serve the divine purpose.

People can have incoherent convictions. Kant and his followers are examples, for teaching both

(1) that every effect has its cause—a unique cause, which therefore has sense III, and
(2) that this cause comes earlier in time—and therefore has sense II.

Natural science has learned to reject these teachings. Nonetheless, philosophers brought them into the twentieth century, thus threatening to inhibit the progress of science by creating hostility, both in the general public and in the academy.

Thus would I summarize Collingwood's essay on causation in the *Essay on Metaphysics.*

According to the Author's Preface in the *Essay,* the parts of Part III

> might be called, as Descartes called a corresponding feature in a book of his own, *specimina philosophandi.* One of them, that on causation, has already been printed in a different shape in the *Proceedings* of the Aristotelian Society for the present year.

The Preface is dated 2 April 1939. The *Proceedings* volume that Collingwood refers to is XXXVIII, of 1937–8. Collingwood's article there, "On the So-Called Idea of Causation," was reprinted in the *International Journal of Epidemiology,* 2014 [18], along with two new articles of commentary [34, 53].

It would be desirable to collate Collingwood's earlier paper with the essay in the *Essay.* The latter is without a recommendation made in the former:

> the best way of avoiding confusion will be to restrict our use of the word cause to occasions on which it is used in its "proper" sense, No. I; that on the occasions on which we use it in sense II we should be wise to use instead the terminology of means and ends; and that when we use it in sense III we should do better to speak of "laws" and their "instances".

Collingwood himself ridicules this kind of recommendation in *The Principles of Art* [9, p. 255]:

> philosophical controversies are not to be settled by a kind of police-regulation governing people's choice of words, and . . . a school of thought (to dignify it by that name) which depends for its existence on enforcing a particular jargon is a school which I neither respect nor fear.

Again, Collingwood in the *Essay* calls his work on causation a *specimina philosophandi.* Today, in English, a specimen is an example or sample for examination; but a Latin dictionary translates *specimen* as "sign, evidence; token, symbol" [39]. This Latin sense is appropriate for a book of philosophy. As a sequence of words, a book is not itself philosophy, but the book may be a sign that philosophy has taken place. Similarly, by the account in *The Principles of Art,* a painting is not a work of art, but a sign that art has taken place.

It seems Descartes had *Specimina Philosophiae,* "Specimens of Philosophy"; Collingwood has replaced *philosophiae* with *philosophandi,* making the phrase mean something like "specimens of how to do philosophy." My Latin is minimal; here I am just following examples like *pudenda* "that of which one ought to be ashamed," from *pudeo* "be ashamed."

I do find Collingwood's work to be a specimen of how to do philosophy. Philosophy is a difficult pursuit, appropriately undertaken as a professional responsibility by certain academics. And yet philosophy is too important to be relegated to a university department.

Collingwood makes both of those points in the *Essay.* He begins the Prologue of his earlier *Speculum Mentis* [8, p. 17] with the assertion,

> All thought exists for the sake of action. We try to understand ourselves and our world only in order that we may learn how to live.

Collingwood effectively tries to live up to at least part of Thoreau's description in *Walden* [51, pp. 14–5]:

> To be a philosopher is not merely to have subtle thoughts, nor even to found a school, but so to love wisdom as to live according to its dictates, a life of simplicity, independence, magnanimity, and trust. It is to solve some of the problems of life, not only theoretically, but practically.

Collingwood can be irascible in a late work like the *Essay.* He has started to suffer the strokes that will kill him in a few years, before he reaches the age of 54. He is set on edge by the coming war. He writes on page 103, "The fate of European science and European civilization is at stake," as we try to get our metaphysics right.

Others do not get metaphysics or Collingwood right. I am going to talk about two examples in the remainder of this Introduction. They may arise from resistance to the *practicality* of Collingwood's thought.

Simon Blackburn may be right about some persons' emotional response:

> All this is off-putting, and Collingwood's readers have to learn to shake their heads with a smile rather than toss the whole thing in the bin.

This is from a 2010 article [5], occasioned by the publication of a "warm-hearted, affectionate biography of an irascible but brilliant philosopher and historian." The work is Fred Inglis's *History Man* [28], and Blackburn remarks on it,

> Even if Collingwood was not the jovial, beer-drinking common man that Inglis would have liked him to be, it is good to see him brought some way back to the human fold.

Having read the biography, I can agree with Blackburn's assessment. Blackburn also provides a good overview of Collingwood's work:

> Most contemporary philosophers . . . conceive of themselves as investigating things such as the nature of thought, or truth, or reason, or meaning. They wonder what a language, or a mind, or a world is that thought and reason and the rest are possible. This conception of the investigation is entirely "a priori": the problem would be the same as it perplexes us and as it perplexed Plato or Descartes. For Collingwood, this is all self-deception. What we may think of as a priori and timeless will be no such thing. It will be simply an application of the "absolute presuppositions" of our own period of thought.

Concerning these absolute presuppositions, Blackburn himself engages in self-deception, saying that they

> lie so far underneath the edifices we build that we cannot dig down to them. They remain invisible, if only because they would be at work determining the shape our digging would take, or what we could notice as we conducted it. We can never step on our own shadow. The only power that can reveal these presuppositions is that of time: later generations will see them, but we cannot.

On the contrary, if we can discover the absolute presuppositions of past generations, then we can discover our own. Collingwood will make a similar suggestion about causation on page 40: if somebody else can cause us to do something, we can also cause ourselves to do it.

Learning our own absolute presuppositions is difficult, but possible. Collingwood is explicit on page 43 (in the original pagination) of the *Essay*:

> . . . in our less scientific moments, when knowledge appears to us in the guise of mere apprehension, intuiting that which simply confronts us, we are not even aware that whatever we state to ourselves or others is stated in answer to a question, still less that every such question rests on presuppositions, and least of all that among these presuppositions some are absolute presuppositions. In this kind of thinking, absolute presuppositions are certainly at work; but they are doing their work in darkness, the light of consciousness never falling on them. *It is only by analysis that any one can ever come to know either that he is making any absolute presuppositions at all or what absolute presuppositions he is making.*

I have italicized the last sentence. With too much appeal to formal logic, one might say that, by Collingwood's account, "analysis" is only a *necessary* condition for coming to know one's absolute presuppositions; this does not mean coming to know them is actually possible. However, in an end-of-chapter note referring back to the passage above, Collingwood says,

> People are not *ordinarily* aware of their absolute presuppositions (p. 43), and are not, therefore, thus aware of changes in them; such a change, therefore, cannot be a matter of choice.

Again the italics are mine, to highlight the exception that proves the rule: awareness of our own absolute presuppositions is *possible,* through analysis, as we said.

At least we can discover our absolute presuppositions as they were, just before we discovered them. Blackburn suggests that being discovered will change the presuppositions, by something like the Heisenberg Uncertainty Principle. Discovery *may* effect a change in our presuppositions, owing to their heretofore unrecognized incompatibility. The conflict in them may disappear, like a neurosis under psychoanalysis. Collingwood describes such a conflict on the (original) page 96 of the *Essay*:

> The 'science' [in the nineteenth century] which was to be protected by this cry of 'No more Metaphysics' was being in effect described as a reactionary science, one which could only be imperilled by a critical inquiry into its foundations. Behind that cry there lay a feeling that the constellation of absolute presuppositions made by this reactionary science was exposed to certain strains which could only be 'taken up' by keeping them in darkness. If people became aware that in certain contexts they were in the habit of treating this or that presupposition as an absolute one, they would be unable to go on doing it.

For examples of such strains, I propose Oedipus and *Marjory Morningstar* in note 26, page 42. Collingwood's main example, to be considered in Chapter XXXIII (page 88), is Kant's metaphysical analysis whereby (a) every event has a cause, (b) which is a previous event. That this was generally accepted in the nineteenth century "is strong, though of course not necessarily conclusive, evidence that it was correct" (page 93)—correct in the sense that persons really made these two presuppositions; and in this case, *pace* Blackburn, they could see that they did. They made the presuppositions under strain though, because they were incompatible.

Further analysis should reveal the incompatibility, thus freeing the former believers. Science is hampered by attempts to impose the presuppositions of a bygone era. Scientists can defend themselves by recognizing clearly what it is they are really doing. In this they can be aided by metaphysicians who understand their *own* work. This is Collingwood's theme.

Blackburn may acknowledge Collingwood's theme, while not thinking it of much importance. He says,

> Collingwood hated the dominant philosophy of his time because of its unhistorical nature. It is not possible even to do science, in his view, without presupposing history, since it is only through their records and their results that scientists can pick up and profit from the labors of their colleagues. *But in principle, at least, it is possible to be a good scientist, at the cutting edge of a field, with little historical sense.*

In the last sentence (italicized by me), Blackburn uses "history" in the conventional sense, narrower than Collingwood's philosophical sense, described in general terms in *An Essay on Philosophical Method* [15, p. 35]:

> when a concept has a dual significance, philosophical and non-philosophical, in its non-philosophical phase it qualifies a limited part of reality, whereas in its philosophical it leaks or escapes out of these limits and invades the neighbouring

> regions, tending at last to colour our thought of reality as a whole.

For each field of science, there may be some number N such that what happened in the field N years ago is of little use. However, what happened less than N years ago is still history, and this is essential for the science. Blackburn seems only to acknowledge this when the science is *philosophy,* which,

> by contrast, is concerned with thought—and as we have seen, Collingwood held that you cannot identify a thought unless you know to what question it was supposed to be an answer. The history of philosophy is therefore not a somewhat down-market curriculum option of no great interest to contemporary practitioners, just as the history of physics might exist alongside physics as something for retirement or bedtime. Instead *Collingwood sees thought as something that is historically embodied* . . . We can understand where we are only by understanding where we have been . . .

We can understand where we have been only through the traces it has left where we are now. *This* is what makes history practical, by Collingwood's account in *An Autobiography* [**?**, p. 106]:

> If the function of history was to inform people about the past, where the past was understood as a dead past, it could do very little towards helping them to act; but if its function was to inform them about the present, in so far as the past, its ostensible subject-matter, was incapsulated in the present and constituted a part of it not at once obvious to the untrained eye, then history stood in the closest possible relation to practical life.

Some of these traces may be *survivals,* as Collingwood describes them on page 65 below and, at greater length, in a manuscript he did not publish himself [**?**, p. 142]:

> Civilized peoples have developed out of savage ones; and civilization contains many elements which, taken at their face value, are condemned as irrational and described as superstitions; but it would be better to drop that word and describe them as survivals, for they are things whose proper home and meaning must be sought in the context of an earlier civilization.

Though I am a fan both of Collingwood and of my *alma mater* St John's College [42], the latter may *not* treat thought "as something that is historically embodied," in the clause of Blackburn that I italicized. At the College, there is no study of history as such, although there is study of mathematics, language, science, and music. And yet the whole Program is historical, if only in the sense that its texts are read mostly in chronological order. There is no "literature segment," in which one reads together Homer, Dante, and Jane Austen; no "metaphysics segment," in which one reads Aristotle, Descartes, and Kant. One reads them all, but over a span of years, in the order: Homer, Aristotle, Dante, Descartes, Kant, Jane Austen.

By contrast, in a conventional philosophy department, one may take a course in metaphysics. Then one might read a textbook such as Michael J. Loux, *Metaphysics: A contemporary introduction* [35], which I happened upon in an Ankara bookshop some years ago.

Collingwood begins his own *Essay on Metaphysics* by analyzing Aristotle's book on the subject. He writes down (on his page 11) two propositions, "each of which offers what might be called a definition of metaphysics":

> 1. Metaphysics is the science of pure being.
> 2. Metaphysics is the science which deals with the presuppositions underlying ordinary science; where by 'ordinary science' I mean such thinking as is 'scientific' in

> the sense defined in the preceding chapter, and 'ordinary' in the sense that is it not a constituent part of metaphysics.
>
> In this chapter I shall argue that the first of these two propositions cannot be true because a science of pure being is a contradiction in terms. The second proposition I take to be true, and this book as a whole represents my endeavour to explain its meaning.

Loux makes the same distinction, but his choice of focus is opposite to Collingwood's. In Kant's terminology, the two understandings of metaphysics are "transcendent" and "critical," and by Loux's account,

> Whereas transcendent metaphysics seeks to characterize a reality that transcends sense experience, critical metaphysics has as its task the delineation of the most general features of our thought and knowledge . . .
>
> Kant's conception of a metaphysical enterprise whose task it is to identify and characterize the most general features of our thought and experience is one that continues to find defenders in our own day.

Now Loux makes a note, providing evidence for Blackburn's speculation about Collingwood: "I doubt if he is more than a ghost in the footnotes to syllabi across the Western world." Loux's note is not even a footnote, but an end-of-chapter note. There he makes the only reference to Collingwood in his book—at least according to the Index. Neither the Index nor the note itself gives the page where the reference to the note is found. That page is 8; the note itself is 8 among the nine notes on page 17.

In his note, Loux lists Collingwood's *Essay* as the earliest of several "examples of this [critical] approach to metaphysics." Then he continues in the main text:

> These philosophers tell us that metaphysics is a descriptive enterprise whose aim is the characterization of our *conceptual scheme* or *conceptual framework.*

Presently Loux assigns to these philosophers a jocular if not pejorative and dismissive title: “conceptual schemers.” Loux will not follow them:

> I am inclined to think that traditional metaphysicians are right here. As I see it, arguments designed to undermine the conception of metaphysics as traditionally understood invariably call themselves into question. In any case, it is metaphysics as traditionally understood that we will be doing or trying to do in this book. The aim will be to characterize the nature of reality, to say how things are.

I would say rather that *skepticism* calls itself into question, as Collingwood points out in *An Essay on Philosophical Method* [15, pp. 140–1]:

> Scepticism . . . is in reality a covert dogmatism; it contains positive theories of the nature, method, and limitations of philosophical thought, but disclaims their possession and conceals them from criticism. Hence it is both inconsistent, or false to its own professed principles, and—intentionally or unintentionally—dishonest, because applying to others a form of criticism which in its own case it will not admit.

(See also note 25, page 41.) Meanwhile, Loux has said:

> If the conceptual schemer is correct in claiming that the act of conceptual representation bars us from an apprehension of anything we seek to represent, then why should we take seriously the schemer’s claims about the conceptual representation?

Why indeed? But the kind of skeptical stance that Loux attributes to his "conceptual schemers" is not Collingwood's. Again Loux:

> Traditional metaphysicians will go on to insist that we manage to think and talk about things—things as they really are and not just things as they figure in the stories we tell. They will insist that the very idea of thinking about or referring to things presupposes that there are relations that tie our thoughts and words to the mind-independent, language-independent things we think and talk about . . .

If "traditional metaphysicians" are insisting that we have certain presuppositions, then these persons may indeed be metaphysicians, by Collingwood's account, as summed up in the last quotation above from the *Essay on Metaphysics,* as well as on its original page 47:

> Metaphysics is the attempt to find out what absolute presuppositions have been made by this or that person or group of persons, on this or that occasion or group of occasions, in the course of this or that piece of thinking.

But if Loux's "traditional metaphysicians" assert that their own presuppositions are everybody's, throughout time, well, evidently this is a presupposition too, and it ought to be brought to light. Loux seems to have missed the point of Collingwood, noted by Blackburn: the project of saying how things are is certainly *possible*: but it is *historical.*

The point should be developed, but I am not going to try to do it here. I shall just note how I think Loux is at best misguided. He says in the first paragraph of his Chapter 1 (called "The problem of universals I—Metaphysical realism"):

> Although almost everyone will concede that some of our ways of classifying objects reflect our interests, goals, and values,

> few will deny that many of our ways of sorting things are fixed by the objects themselves.* It is not as if we just arbitrarily choose to call some things triangular, others circular, and still others square; they *are* triangular, circular, and square. Likewise, it is not a mere consequence of human thought or language that there are elephants, oak trees, and paramecia. They come that way, and our language and thought reflect these antecedently given facts about them.

Collingwood himself considers the notion of arbitrary choice, beginning on page 53 below. Obviously our manner of talking about things is not arbitrary. But to me it is obvious as well that things don't just "come" the way we talk about them. Consider: "People come in two races, black and white: this is no mere consequence of human thought or language." I am sure that there are many people who would agree with this: but they are mistaken. The way we classify things may be based on the things, but they do not tell us how to do it.

*An exception, of course, is the conceptual schemer we discussed in the Introduction. [Loux's note.]

Note on the Text

Any version of an old text should provide an explanation of how the text was obtained and edited, so that readers may assess its authenticity.

I have taken Collingwood's text from a `pdf` scan, found on the Web, of a reissuing [10] of the first edition. The colophon there includes:

FIRST EDITION 1940

Reprinted photographically in Great Britain
at the Oxford University Press, 1948
from sheets of the first edition

In particular, there is no assertion of copyright. Presumably this is because of Collingwood's express opposition to copyright in *The Principles of Art* (1938). However, Collingwood died in 1943.

I used an optical character recognition (OCR) program to convert the desired pages of the `pdf` file of the *Essay* into a text file. I then made the text file into a LaTeX file. Editing this involved doing the following.

- Removing the scanned page headings.[c]

[c] In the original, the heading of each page that does not begin a chapter consists of the name of the chapter, in Chapters XXIX, XXX, and XXXIV. In chapters XXXI, XXXII, and XXXIII, the name being too long for one page, it is divided across each two-page spread:

CAUSATION IN PRACTICAL	NATURAL SCIENCE
CAUSATION IN THEORETICAL	NATURAL SCIENCE
CAUSATION IN	KANTIAN PHILOSOPHY

- Marking up footnotes and *italics* as such.
- Replacing the ligatures "ﬂ" and "ﬁ" (often ill-scanned) with distinct letters `fl` and `fi` (which the TeX program then makes into ligatures again; apparently the OCR program recognized no "ﬀ" or "ﬃ" ligatures).
- Resetting the first word of each chapter in SMALL CAPITALS, as in the original.
- correcting the instances of Greek text (which the OCR program did not recognize at all).
- Following abbreviations like `e.g.`, `i.e.`, `loc.`, `Mr.`, `op.`, and `pp.` with `\␣` (backslash followed by space) so that TeX knows that they do not end a sentence.
- Removing, or replacing with a hyphen, the text file's `~␣` (tilde followed by space, evidently used by the OCR program in place of the hyphen at the end of a line).
- Making other corrections, such as when the scanner confuses ell with one (l with 1) or oh with zero (o with 0).

The last page of chapter XXXI being even, it has the heading "PRACTICAL NATURAL SCIENCE." My pages being wider (typographically speaking) than Collingwood's, I need not divide chapter titles. But a LaTeX package might be desirable that provided a command with five arguments: (1) chapter title; (2) first half of title, for heading even pages inside the chapter; (3) second half of title, for odd pages inside the chapter; (4) abbreviated title, for the last page of the chapter, if even; (5) abbreviated title for the table of contents. The existing `\chapter` command takes only two arguments: title and abbreviated title.

R. G. Collingwood
"Causation"
from *An Essay on Metaphysics*

XXIX
THREE SENSES OF THE WORD 'CAUSE'

CONFORMABLY to the historical nature of metaphysics, any discussion of a metaphysical difficulty must be historically conducted. One major difficulty, or group of difficulties, now exercising students of metaphysics is connected with the idea of causation. I do not hope in the present part of my essay to offer a complete solution for this difficulty or group of difficulties; all I propose to do is to show what I mean by saying that it ought to be discussed historically.

I shall confine myself to making two main points.

1. That the term 'cause', as actually used in modern English and other languages, is ambiguous. It has three senses; possibly more; but at any rate three.[1]

Sense I. Here that which is 'caused' is the free and deliberate act of a conscious and responsible agent, and 'causing' him to do it means affording him a motive for doing it.[2]

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[1] Collingwood's three senses correspond roughly, in reverse order, to definitions 1–3 of "cause" in the *Oxford English Dictionary* [40]. For definition 2, see note 6, page 29; definition 1, note 7, page 29; definition 3, note 16, page 36. The remaining *OED* definitions, 4–12, are for obsolete or legal senses, or for "cause" as used in set phrases. Evidently Collingwood has consulted the *OED*: see page 36.

[2] Collingwood will provide his own examples when he takes up the three senses of "cause" respectively in the next three chapters. Meanwhile, I suggest that Glenn Greenwald uses sense I of "cause" in an article by

Sense II. Here that which is 'caused' is an event in nature, and its 'cause' is an event or state of things by producing or preventing which we can produce or prevent that whose cause it is said to be.[3]

Sense III. Here that which is 'caused' is an event or state of things, and its 'cause' is another event or state of things standing to it in a one-one relation of causal priority: i.e. a relation of such a kind that (a) if the cause happens or exists

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called "Canada, at war for 13 years, shocked that a 'terrorist' attacked its soldiers" [22]:

> The issue here is not justification (very few people would view attacks on soldiers in a shopping mall parking lot to be justified). The issue is causation . . . Except in the rarest of cases, the violence has clearly identifiable and easy-to-understand causes: namely, anger over the violence that the country's government has spent years directing at others.

Terrorist violence is an example of what Collingwood calls a " free and deliberate act of a conscious and responsible agent"; nonetheless, it will have motives, and these would seem to be what Greenwald refers to as "causes." Some persons would seem to be resistant to this terminology, as Greenwald points out in an Update to the original article:

> no matter how clear you make it that you are writing about causation and not justification, many will distort what you write to claim you've justified the attack.

Such disputes as between Greenwald and his detractors are one cause of the study the text of Collingwood presented here. Greenwald himself uses "cause" in Sense II in the same Update; see the next note, along with note 8 on page 30.

[3] In the Update of the article mentioned in the previous note, Greenwald writes also,

> If one observes that someone who smokes four packs of cigarettes a day can expect to develop emphysema, that's an observation about causation, not a celebration of the person's illness.

I take the emphysema to be an event in nature, and its cause is smoking. However, if we mean cause in Sense II, Greenwald's assertion here too will be controversial, if some persons wish to deny that smokers have any control over their habit.

the effect also must [**286**] happen or exist, even if no further conditions are fulfilled, (*b*) the effect cannot happen or exist unless the cause happens or exists, (*c*) in some sense which remains to be defined, the cause is prior to the effect; for without such priority there would be no telling which is which. If C and E were connected merely by a one-one relation such as is described in the sentences (*a*) and (*b*) above, there would be no reason why C should be called the cause of E, and E the effect of C, rather than vice versa. But whether causal priority is temporal priority, or a special case of temporal priority, or priority of some other kind, is another question.[4]

Sense I may be called the *historical* sense of the word 'cause', because it refers to a type of case in which both C and E are human activities such as form the subject-matter of history. When historians talk about causes, this is the sense in which they are using the word, unless they are aping the methods and vocabulary of natural science.[5]

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[4] It is not clear at this point why the same effect cannot have any one of a number of causes, even in sense III where there is no implication of human involvement. Tears can be caused by sadness or onions; dark clouds, by burning tires or by dust storm. It might be said then that we are talking not about the same effect, but the same *kind* of effect. Still, this would seem to be allowed: as Collingwood will say on page 62, "In sense III causal propositions might equally well be either individual or general." Meanwhile, If C *implies* E logically, then each of C and E is called a *condition* of the other, but there is still a distinction: C is a *sufficient* condition for E, and E is a *necessary* condition for C. Collingwood will take up the relation between causation and implication in Chapter XXXII, starting on page 71.

[5] Collingwood uses the verb "ape" here pejoratively. Historians ought not to confuse their work with natural science. See for example *The Principles of History* [14, p. 83]:

> . . . all the human sciences distinguish what a thing is meant to be from what it is, and aim at distinguishing cases where the two coincide (successes) from

Sense II refers to a type of case in which natural events are considered from a human point of view, as events grouped in pairs where one member in each pair, C, is immediately under human control, whereas the other, E, is not immediately under human control but can be indirectly controlled by man because of the relation in which it stands to C. This is the sense which the word 'cause' has in the *practical sciences of nature*, i.e. the sciences of nature whose primary aim is not to achieve theoretical knowledge about nature but to enable man to enlarge his control [**287**] of nature. This is the sense in which the word 'cause' is used, for example, in engineering or medicine.[6]

Sense III refers to a type of case in which an attempt is made to consider natural events not practically, as things to be produced or prevented by human agency, but theoretically, as things that happen independently of human will but not independently of each other: causation being the name by which this dependence is designated. This is the sense which the word has traditionally borne in physics and chemistry and, in general, the *theoretical sciences of nature*.[7]

> cases in which they do not (failures). But according to the assumptions of our natural science . . . cases of this kind are not distinguishable in the world of nature . . .

[6]The closest the *OED* comes to this sense of cause seems to be in the second definition:

> **2.** A person or other agent who brings about or occasions something, with or without intention. (Often in bad sense: One who occasions, or is to blame for mischief, misfortune, etc.)
>
> *c* **1374** CHAUCER *Anel. & Arc.* [*Anelida and Arcite*] 257 Þaughe þat yee Þus Causelesse þe Cause be Of my dedely aduersitee . . .

[7]This is roughly the first definition in the *OED*:

> **1.** That which produces an effect; that which gives rise to any action,

The difficulties to which I referred at the beginning of this chapter are all connected with sense III. The other two senses are relatively straightforward and easy to understand. They give rise to no perplexities. The only perplexities that ever occur in connexion with them are such as arise from a confusion of sense I with sense II, or from a confusion of either with sense III.[8] But sense III, as I shall show, raises difficult problems quite by itself, and apart from any confusion with other senses. These problems are due to internal conflict.[9] The var-

phenomenon, or condition. *Cause* and *effect* are correlative terms.

c **1315** SHOREHAM 117 Cause of alle thyse dignyte . . Was Godes owene grace . . .

b. as philosophically defined.

1656 tr. *Hobbes' Elem. Philos.* II ix. (1839) 121 A cause simply, or an entire cause, is the aggregate of all the accidents both of the agents how many soever they be, and of the patient, put together; which when they are all supposed to be present, it cannot be understood but that the effect is produced in the same instant . . .

[8] Collingwood seems wrong here, because there are such controversies as discussed in note 2, page 26. When the citizenry are accused of having brought on the terrorist attack that they have suffered, they object, perhaps because they think responsibility is being *transferred* from the attacker to themselves. However, sense I of causation implies a *sharing* of responsibility, according to Collingwood on page 39. It might mollify the sufferers of the attack to understood the original accusation as involving sense II of causation. This would mean the attack on them was "an event in nature," which they might have worked to prevent, as they might work to prevent or ameliorate the destructive effects of an earthquake. Still, in the immediate aftermath of a disaster, nobody wants to be told what they *should have* done.

[9] Collingwood took up these problems, even in his first book, *Religion and Philosophy,* particularly in Part II, "Religion and Metaphysics"; Chapter II, "Matter"; §2, "Materialism"; (b), "The paradox of causation" [7, pp. 82–9]. See the passages about (1) the universe as self-causing (note 25, page 41); (2) everything's being willed (note 61, page 62); (3) the dualism of "popular metaphysic" (note 66, page 67); (4) a tree's

ious elements which go to make up the definition of sense III are mutually incompatible. This incompatibility, at the lowest estimate, constitutes what I called in Chapter VII a 'strain' in the current modern idea of causation, and therefore in the whole structure of modern natural science in so far as modern natural science is based on that idea.[10]

I have called I, II, and III different 'senses' of the [**288**] word 'cause'. A technical objection might be lodged against this expression on any of three grounds, if no more.

(*a*) 'What you have distinguished are not three senses of the word "cause", but three types of case to any one of which that word is appropriate, the sense in which it is used being constant.' But, as I shall try to show, if you ask what exactly you mean by the word on each type of occasion you will get three different answers.

(*b*) 'What you have distinguished is three kinds of causation.' But the three definitions of causation referred to in the foregoing paragraph are not related to each other as species of any common genus; nor is there any fourth definition, the definition of cause in general, of which the three 'kinds' of causation are species.[11]

(*c*) 'One of your three so-called senses of the word "cause" is the only proper sense; the other two represent metaphori-

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fall (note 67, page 68).

[10] This then is the main theme of Collingwood's present text: the history of modern science. Freedom and responsibility compose a theme of Collingwood's *New Leviathan* [13], mentioned in notes 24 (page 40) and 55 (page 59).

[11] This is an echo of the "overlap of classes" discussed in Collingwood's *Essay on Philosophical Method* [15]. When Collingwood makes a sharp distinction between the senses of cause, he ought to have a good reason. He has already said that there is something fuzzy about sense III.

cal usages of the word.' In order to show how baseless this objection is, it would be necessary to show that the distinction between 'proper' and 'metaphorical' senses of words is illusory. The contradictory of 'proper' is not 'metaphorical' but 'improper'. A proper usage of a word is one which as a matter of historical fact occurs in the language to which the word belongs. The contradictory of 'metaphorical' is 'literal'; and if the distinction between literal and metaphorical usages is a genuine distinction, which in one sense it is, both kinds of usage are equally proper. There is another sense in which all **[289]** language is metaphorical; and in that sense the objection to certain linguistic usages on the ground that they are metaphorical is an objection to language as such, and proceeds from an aspiration towards what Charles Lamb called the uncommunicating muteness of fishes. But this topic belongs to the theory of language, that is, to the science of aesthetic, with which this essay is not concerned.[*][12]

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[*] The main questions involved, as I see them, are discussed in my *Principles of Art,* especially Chapter XI.

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[12] In the Editor's Introduction to the Revised Edition of the *Essay* [12, p. xci, n. 23], Rex Martin suggests that Collingwood did take senses II and III of "cause" to be metaphorical, in his original paper. There he says, for example [18, p. 1697],

> Sense I, which is historically the original sense, is presupposed by the others, and remains strictly speaking the one and only "proper" sense. When we assert propositions containing the word cause in senses II and III, we are "saying" one thing and "meaning" another . . . This always has an element of danger in it . . . This danger is much worse when our "metaphors" get "mixed".

Though the original paper is dated 1937–8, Collingwood may have written it before feeling the need to rewrite *Outlines of a Philosophy of Art.* He needed to rewrite, because he had "changed his mind on some things," according to the Preface, dated 22 September 1937, of *The Principles of Art.*

Martin's note is to his paragraph [12, p. lx], At the same time I do not wish to imply that the distinction between I, II, and III is an example of what Aristotle calls 'accidental equivocation'.* It is not mere equivocation, for there is a continuity between the three things distinguished, though this continuity is not of the kind suggested in any of the three objections I have quoted. And the differences between them are not accidental; they are the product of an historical process; and to the historian historical processes are not accidental, because his business is to understand them, and calling an event accidental means that it is not capable of being understood. This brings me to my second main point.

2. That the relation between these three senses of the word 'cause' is an historical relation: No. I being the earliest of the

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* *Eth. Nic.* 1096^{b} 26–7: (although the various goodnesses of honour, wisdom, and pleasure are not identical in definition but differ *qua* goodnesses) 'the case does not resemble one of accidental equivocation', *οὐκ ἔοικε τοῖς γε ἀπὸ τύχης ὁμωνύμοις.*

> So we will examine initially only senses I and II, for they are the basic ones in Collingwood's account. Collingwood emphasizes here that these are two distinct senses of 'cause'. But neither one is *the* proper sense, in his view. The term 'cause' is equivocal and these are simply two of its different meanings.

This sounds as if Martin *accepts* objection (*b*), " 'What you have distinguished is three kinds of causation.' " The word "cause" is not *simply* equivocal, but its meanings are historically related.

Moreover, though Martin says "we will examine *initially* only senses I and II, in an account of 14 pages (liv–lxvii), he hardly mentions sense III again, even though, as Collingwood said above,

> The difficulties to which I referred at the beginning of this chapter are all connected with sense III. The other two senses are relatively straightforward and easy to understand.

Martin skips sense III because (1) "Collingwood's account of it is obscure and vaguely worded," (2) the sense is "somehow derivative from the other two," and (3) it is "no longer figuring significantly in the most advanced theoretical science, physics" [12, p. lx].

three, No. II a development from it, and No. III a development from that.

XXX
CAUSATION IN HISTORY

In sense I of the word 'cause' that which is caused is the free and deliberate act of a conscious and responsible agent, and 'causing' him to do it means affording him a motive for doing it. For 'causing' we may substitute 'making', 'inducing', 'persuading', 'urging', 'forcing', 'compelling', according to differences in the kind of motive in question.

This is a current and familiar sense of the word (together with its cognates, correlatives, and equivalents) in English, and of the corresponding words in other modern languages.[13] A headline in the *Morning Post* in 1936 ran, 'Mr. Baldwin's speech causes adjournment of House'. This did not mean that Mr. Baldwin's speech compelled the Speaker to adjourn the House whether or no that event conformed with his own ideas and intentions; it meant that on hearing Mr. Baldwin's speech the Speaker freely made up his mind to adjourn. In the same sense we say that a solicitor's letter causes a man to pay a debt or that bad weather causes him to return from an expedition.[14]

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[13]We are not developing a doctrine using "cause" as a technical term. Our emphasis is on the actual use of the word *and related words.* For example, on page 91, Collingwood will take Locke's "power" to mean causation.

[14]If we say that somebody else's bad driving caused us to have an accident, or oversleeping caused us to miss class, we are using "cause" in some other sense. Since Collingwood *argues* his point about what "cause" *can* mean, he must think that the point will not be accepted

I have heard it suggested that this is a secondary sense of the word 'cause', presupposing and derived from what I call sense III. The relation here described as 'presupposing' or 'being derived from' might, I take it, be understood either (1) as an historical relation, where '*b* presupposes *a*' means that a state of things *a* has given rise by an historical [**291**] process into a state of things *b*, as a state of the English language in which 'cat' means an animal with claws gives rise by an historical process to a state in which it also means a kind of whip that lacerates the flesh of its victim; or (2) as a logical relation, where '*b* presupposes *a*' means that a state of things *a* exists contemporaneously with a state of things *b*, and *a* is an indispensable condition[15] of *b*; as a state of the English language in which 'cat' still means an animal exists contemporaneously with a state in which it means a whip, and is an indispensable condition of it.

1. Sense I is not historically derived from sense III. On the contrary, when we trace the historical changes in the meaning of the word 'cause' in English and other modern languages, together with the Latin *causa* and the Greek *αἰτία*, we find that sense I is not only an established modern sense, it is also of great antiquity. In English it goes back, as the quotations in the *Oxford English Dictionary* show, to the Middle Ages.[16] In Latin it is the commonest of all the senses distinguished by Lewis and Short, and also the oldest. In Greek, as the

otherwise. The next sentence offers justification for his concern.

[15]That is, a "necessary" condition, as in note 4, page 28.

[16]The third definition of "cause" in the *OED* is,

> A fact, condition of matters, or consideration, moving a person to action; ground of action; reason for action, motive.

The first illustrative quotation is from the *Ancren Riwle,* dated before 1225. See Appendix A, page 105.

articles *αἰτία*, *αἴτιος* in Liddell and Scott show, the word which in Latin is translated *causa* meant originally 'guilt', 'blame', or 'accusation', and when first it began to mean 'cause', which it sometimes does in fifth-century literature, it was used in sense I, for the cause of a war or the like. In fact, the historical relation between these senses is the opposite of what has been suggested. Sense I is the original sense, and senses II and III have been derived from it by a process I shall trace in the sequel. [**292**]

2. Sense I does not logically presuppose sense III. On the contrary, as I shall show in the following chapters, both sense II and sense III logically presuppose sense I; and any attempt to use the word in sense II or III without the anthropomorphic implications belonging to sense I must result either in a misuse of the word cause (that is, its use in a sense not consistent with the facts of established usage), or in a redefinition of it so as to make it mean what in established usage it does not mean: two alternatives which differ only in that established usage is defied with or without a formal declaration of war.[17]

A cause in sense I is made up of two elements, a *causa quod* or efficient cause and a *causa ut* or final cause.[18] The *causa quod* is a situation or state of things existing; the *causa ut* is a purpose or state of things to be brought about. Neither of these could be a cause if the other were absent. A man who tells his stockbroker to sell a certain holding may be caused to act thus by a rumour about the financial position of that company; but this rumour would not cause him to sell out

[17] This is the core idea. The misuse or redefinition of "cause" is not simply a linguistic problem, of concern only to a pedant such as Collingwood might be accused of being; but it leads to the "internal conflict" mentioned on page 30.

[18] See Appendix B on Aristotle's causes.

unless he wanted to avoid being involved in the affairs of an unsound business. And *per contra* a man's desire to avoid being involved in the affairs of an unsound business would not cause him to sell his shares in a certain company unless he knew or believed that it was unsound.

The *causa quod* is not a mere situation or state of things, it is a situation or state of things known or believed by the agent in question to exist.[19] If a prospective litigant briefs a certain barrister because of **[293]** his exceptional ability, the *causa quod* of his doing so is not this ability simply as such, it is this ability as something known to the litigant or believed in by him.

The *causa ut* is not a mere desire or wish, it is an intention. The *causa ut* of a man's acting in a certain way is not his wanting to act in that way, but his meaning to act in that way. There may be cases where mere desire leads to action without the intermediate phase of intention; but such action is not deliberate, and therefore has no cause in sense I of the word.[20]

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[19] This is a theme of Collingwood's philosophy of history. Unlike natural science, history is not about "situations or states of things" as such, but about what is thought of them [14, p. 93]:

> It is not nature as such and in itself (where nature means the natural environment) that turns man's energies here in one direction, there in another: it is what man makes of nature by his enterprise, his dexterity, his ingenuity, or his lack of these things.

[20] *Advertising* may be intended to create desire that leads to the action of spending, without deliberation on the part of the consumer. Non-deliberate action would seem to be "natural," making advertising a cause in sense II. The "natural" effect of advertising would be the enrichment of the advertiser. The ensuing discussion suggests that "non-deliberate action" is a contradiction in terms, or at least does not refer to action in the fullest sense. See also note 32, page 46.

Causes in sense I of the word may come into operation through the act of a second conscious and responsible agent, in so far as he (1) either puts the first in a certain situation in such a way that the first now believes or knows himself to be in that situation, or alternatively informs or persuades the first that he is in a certain situation; or (2) persuades the first to form a certain intention. In either of these two cases, the second agent is said to cause the first to do a certain act, or to 'make him do it'.

The act so caused is still an act; it could not be done (and therefore could not be caused) unless the agent did it of his own free will. If A causes B to do an act β, β is B's act and not A's; B is a free agent in doing it, and is responsible for it. If β is a murder, which A persuaded B to commit by pointing out certain facts or urging certain expediencies, B is the murderer. There is no contradiction between the proposition that the act β was caused by A, and **[294]** the proposition that B was a free agent in respect of β, and is thus responsible for it. On the contrary, the first proposition implies the second.[21]

Nevertheless, in this case A is said to 'share the responsibility' for the act β.[22] This does not imply that a responsibility is a divisible thing, which would be absurd;[23] it means that, whereas B is responsible for the act β, A is responsible for his own act, α, viz. the act of pointing out certain facts to B or urging upon him certain expediencies, whereby he induces him to

[21]If β is a murder committed by B, then to say that A caused β is to accept the proposition that B actually performed the act. In another situation, as when A secretly drugs B into unconsciousness and then wraps the hand of B around the pistol, then there is no act β, but rather the act α by A of performing the murder.

[22]See note 8, page 30, about confusion over the sharing of responsibility.

[23]The *corporation* divides a limited responsibility among shareholders.

commit the act β. When a child accused of a misdeed rounds on its accuser, saying, 'You made me do it', he is not excusing himself, he is implicating his accuser as an accessory. This is what Adam was doing when he said, 'The woman whom thou gavest to be with me, she gave me of the tree, and I did eat'.[24]

A man is said to act 'on his own responsibility' or 'on his sole responsibility' when (1) his knowledge or belief about the situation is not dependent on information or persuasion from any one else, and (2) his intentions or purposes are similarly independent. In this case (the case in which a man is ordinarily said to exhibit 'initiative') his action is not uncaused. It still has both a *causa quod* and a *causa ut*. But because he has done for himself, unaided, the double work of envisaging the situation and forming the intention, which in the alternative case another man (who is therefore said to cause his action) has done for him, he can now be said to cause his own action as well as to do it. If he invariably acted in that way the total complex of his activities could **[295]** be called self-causing (*causa sui*); an expression which refers to absence of persuasion or inducement on the part of another, and is hence quite intelligible and significant, although it has been denounced as

[24] A study of *law* might be in order. Collingwood's *New Leviathan* [13] is full of references to Roman law, such as the following, from Chapter XIX, "Two Senses of the Word 'Society.' ":

> **19. 5.** The word 'society' in modern European languages is borrowed from the vocabulary of Roman law.
>
> **19. 51.** *Societas* is a relation between *personae* (that is, human beings capable of sueing and being sued, who must be free man and not slaves, Roman citizens and not foreigners, male and adult, not in the *manus* or *patria potestas* of another but heads of families) whereby they join together of their own free will in joint action.

Of the legal senses of "cause" in the *OED* (note 1, page 26), the basic one is, "the matter about which a person goes to law." But again, our purpose is not to study the word "cause" as such (note 13, page 35).

nonsensical by people who have not taken the trouble to consider what the word 'cause' means.[25]

[25] Collingwood often declines to name the persons he disagrees with. This can be understood as politeness. What he is criticizing is the "persona" or mask of the author of some work, and not the *person.* The thought of the person may have changed and developed since the writing. The person is not now present to offer a defense, a clarification, or a retraction.

Nonetheless, Collingwood is going to disagree with certain named persons in Chapter XXXIII (page 88).

The idea of self-causing activity is seen in *Religion and Philosophy* [7, p. 87], in (iii.) of the subsection mentioned in note 9 (page 30):

> The first law of matter is that it cannot originate states in itself. But the universe as a whole, if it has any states, must originate them itself; and yet if it does so it breaks the first law of matter; for it is itself a material thing. But the universe only means all that exists; so if the universe is an exception to the law of causation, everything is an exception to it, and it never holds good at all.

Matter cannot originate states in itself; but a person can. One might argue on the contrary that, since everything *is* matter, a person in particular is matter, and thus one *cannot* originate states in oneself: any appearance otherwise is an illusion. This is the kind of self-defeating scepticism that I mention on page 20. We may *presuppose* that all is matter; but we *observe* is that we originate states in ourselves. We do things (see note 26, page 42). An explanation of this observation that does away with it is no explanation.

XXXI
CAUSATION IN PRACTICAL NATURAL SCIENCE

In sense I of the word 'cause' that which is caused is a human action (including under that name actions of other, nonhuman, agents, if there are any, which act in the same conscious, deliberate, and responsible way which is supposed to be characteristic of human beings).[26] That which causes may,

[26] A cat may cause us, in sense I, to open a door for her. However, even among humans, action in a "conscious, deliberate, and responsible way" may not happen frequently, as Collingwood discusses in *The Idea of History* [11, pp. 41 f.]:

> Greco-Roman humanism, however, had a special weakness of its own because of its inadequate moral or psychological insight. It was based on the idea of man as essentially a rational animal, by which I mean the doctrine that every individual human being is an animal capable of reason . . . Now the idea that every agent is wholly and directly responsible for everything that he does is a naïve idea which takes no account of certain important regions in moral experience . . . Looking back over our actions, or over any stretch of past history, we see that something has taken shape as the actions went on which certainly was not present to our minds, or to the mind of any one, when the actions which brought it into existence began. The ethical thought of the Greco-Roman world attributed far too much to the deliberate plan or policy of the agent, far too little to the force of a blind activity embarking on a course of action without foreseeing its end and being led to that end only through the necessary development of that course itself.

Obviously *we* do not know the full shape that our lives are going to take, no matter how deliberately we act. A simple example arises from when I started playing chess. At first, no matter how carefully I set out, intending not to make simple mistakes, I made them anyway. Only by experience could I learn not to make them.

as we have seen, come into operation through the activity of a second human agent.[27]

In sense II that which is caused is an event in nature; but the word 'cause' still expresses an idea relative to human conduct,

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We may say that the shape that our lives will take must be present, if not to our own mind, then to *some* mind, such as the mind of God. This would be a presupposition. It may be ridiculed as a fairy tale; but then another fairy tale may be substituted for it. If we end up doing things that we did not plan, we may say that, nonetheless, our Unconscious brought those things about, deliberately. This may be a useful presupposition, but we can make it only under strain, in the sense of page 15; for it conflicts with the observation (mentioned in note 25, page 41) that we *are* in control of what we do, or at least of what we have *yet* to do or are *about* to do. Oedipus may have been unable to falsify the Oracle; but he *thought* that he could.

A modern fictional example is in Herman Wouk's 1955 novel *Marjorie Morningstar* [54, ch. 42, pp. 483–489], set in the 1930s. Here a faithful Freudian believes in an Unconscious controller of destiny—at least the destiny of *other* people. The strain of believing in it for *himself* becomes intolerable when he kills his hated wife by accident (he falls asleep at the wheel).

[27] Collingwood does not say that that which causes may *be* a second human agent, only that it may "come into operation" through a second agent. The meaning of this is given on page 39. As originally described, starting on page 26, a cause in sense II or III is an event in nature, or a state of things; no cause in sense I is described, but only that which is caused. Only in the next chapter, on page 37, do we see a *cause* in sense I described: it is not simple, but made up of the "cause that" and "cause for the sake of which" (page 37; see also Appendix B). The "cause that" (*causa quod*) is again a "situation or state of things"; but it is emphatically not merely that, because the effect is not just an event (or situation, or state), but a deliberate *act.* The cause *that* the act happens must be known to the agent. The cause *for the sake of which* the act happens (*causa ut*) is the agent's intention. Both of these may "come into operation"—may we say, "be effected," or "be caused"?—by another agent.

because that which causes is something under human control, and this control serves as means whereby human beings can control that which is caused. In this sense, the cause of an event in nature is the handle, so to speak, by which human beings can manipulate it.[28] If we human beings want to produce or prevent such a thing, and cannot produce or prevent it immediately (as we can produce or prevent certain movements of our own bodies), we set about looking for its 'cause'. The question 'What is the cause of an event y?' means in this case 'How can we produce or prevent y at will?'

This sense of the word may be defined as follows. *A cause is an event or state of things which it is in our power to produce or prevent, and by producing or preventing which we can produce or prevent that whose* [**297**] *cause it is said to be.* When I speak of 'producing' something I refer to such occasions as when one turns a switch and thus produces the state of things described by the proposition 'the switch is now at the ON position'. By preventing something I mean producing something

[28]Scholars have picked up on Collingwood's metaphorical use of "handle," as I see in two commentaries [34, 53] in the issue of the *International Journal of Epidemiology* that reprints Collingwood's original article on cause [18].

Collingwood proposes no complementary kind of cause, whereby nature "manipulates" human beings. As recalled in note 27, a cause in sense I, be it a "cause that" or "cause for the sake of which," may be superficially a situation in nature; but it is this only *as understood by the agent who is caused to do something.* Herodotus traces the origin of geometry (or surveying—ἡ γεωμετρίη) to the measurement of land in Egypt [24, II.109]. The annual flooding of the Nile may have *caused* the loss of land in something like sense III—or sense II, if we can contemplate controlling the flooding with dikes or dams—; but loss of land did not cause humans to develop geometry in this sense. They developed geometry *because that* they saw the loss of land, and *for the sake of* assessing taxes by some chosen standard.

incompatible with it, e.g. turning the switch to the OFF position.[29]

Turning a switch to one or other position by finger-pressure[d] is an instance of producing a certain state of things (the ON or OFF position of the switch) immediately, for it is nothing but a certain complex of bodily movements all immediately produced. These movements are not our means of turning the switch, they are the turning of the switch.[30] Subject to cer-

[29] The discussion seems needlessly obscure, unless the obscurity serves some rhetorical purpose, such as showing the writer to belong to a certain professional guild, or mocking others who belong to it. Collingwood has just explained the first use of "producing" in the italicized definition; the next paragraph will explain the second use. We can make a light go on or off by turning a switch, and the position of the switch is a cause in sense II.

[30] I suppose the bodily movements are not our means of turning the switch, because the movements as such are not *deliberate.* We need not think about *how* to turn the switch; we just do it. We do it "immediately," as Collingwood says. It is the turning of the switch that is deliberate. However, the associated bodily movements might

[d] The hyphen in Collingwood's "finger-pressure" appears at the end of a line in the original text, but I assume it is a plain hyphen, which always appears in print, rather than a "soft" hyphen, which appears only at the end of a line, to indicate that a word continues on the next line. In noting my editorial judgment, I follow the practice of a scholarly edition that I happen to possess, of William James's *Psychology: Briefer Course* [29]. The editor thinks it worthwhile to provide three lists: (1) of each hyphen that appears at the end of a line in the original text—the "copy-text"—that might be a plain hyphen, and about which an editorial decision must be made, since the word in whose midst the hyphen appears is printed on one line in the new edition; (2) of hyphens in the copy-text that are clearly plain, because they do not appear at the ends of lines in the copy-text, but that do end lines in the new edition; (3) of hyphens that might be plain, but that end lines in both editions.

tain indispensable conditions, the turning of the switch is our 'means' of producing a further state of things, viz. incandescence or its absence in a certain filament.[31] What is immediately produced (the position of the switch) is the 'cause' in sense II of what is thus mediately produced.[32]

The search for causes in sense II is natural science in that sense of the phrase in which natural science is what Aristotle calls a 'practical science', valued not for its truth pure and simple but for its utility, for the 'power over nature' which it gives us: Baconian science, where 'knowledge is power' and where 'nature is conquered by obeying her'.[33] <u>The field of a 'practical</u>

have to be deliberate under certain conditions of impairment. For example, when younger, I could easily read the "micrographic" print of the *Compact Edition of the Oxford English Dictionary* [40]. Now, especially under low light, I need some *means* of reading, such as the magnifying glass that came with the edition. Then I deliberately take the glass out of the drawer. An extreme example is a patient whom Oliver Sacks calls Christina in *The Man Who Mistook His Wife for a Hat* [46, ch. 3]. Christina loses her "proprioception": the sense of her muscles, tendons, and joints. Her body is no longer hers, and so at first it is useless. She does learn to use it again, but only through conscious, deliberate effort.

[31] The question of why we refer to a *means* of doing something as its *cause* will be raised on page 62. The terminology is a remnant of an "animistic" conception of nature.

[32] If you intentionally startle me, so that I shall drop a glass, my being startled is the cause, in sense II, of the dropping, and it is a cause that you have produced. My dropping the glass is not "the free and deliberate act of a conscious and responsible agent" as in sense I (page 35); it is the effect of being startled, which would seem to be "something in the world of nature or physical world" (page 49). The dropping is thus like the purchasing under the influence of advertising contemplated in note 20, page 38.

[33] Collingwood echoes this conquering-by-obeying in *The Principles of History* [14, p. 99]:

science' is the contingent, or in Aristotle's terminology 'what admits of being otherwise'. The light, for example, is on, but it admits of being off; i.e. I find by experiment that I am able to extinguish [**298**] it by turning the switch to the OFF position. To discover that things are contingent is to discover that we can produce and prevent them.

Before the above definition of sense II is accepted, a preliminary question must be answered. I will put the question by distinguishing between two ideas, the idea of a 'practical' science of nature and the idea of an 'applied' science of nature, and asking to which of these ideas sense II belongs.[34] By a 'practical' science of nature I mean one whose relation to practice is more intimate than that of means to end: one

> The rational activity which historians have to study is never free from compulsion: the compulsion to face the facts of its own situation . . . For though the situation consists altogether of thoughts, his own and other people's, it cannot be changed by a change of mind on the part of himself or anyone else . . . For a man about to act, the situation is his master, his oracle, his god. Whether his action is to prove successful or not depends on whether he grasps the situation rightly or not.

[34]That is the question to be answered; it will be in the next paragraph. Collingwood says earlier in the *Essay,* at the beginning of Chapter X, "Psychology as the Science of Feeling," on his page 106,

> thought stands as the general name for a number of different activities . . . These activities . . . had been regarded ever since the days of ancient Greek thought as having two different modes of functioning, one theoretical and the other practical. Theoretical thinking meant trying to figure out the truth about something. Practical thinking meant trying to think out what to do in a given situation.

Page 106 is the sole reference under "practical thinking" in Collingwood's Index; all references under "practical science" and "practical sciences" are to pages reproduced in the present document. Corresponding to practical and theoretical thought, there should be practical and theoretical sciences. And yet there seems to be a third kind of science as well: applied science. Then the question is, "Is this 'really' practical, or theoretical?"

whose practical utility is not an ulterior end for whose sake it is valued, but its essence. By an 'applied' science of nature I mean one whose essence *qua* science is not practical utility but theoretical truth, but one which, in addition to being true, is useful as providing the solution for practical problems by being 'applied' to them. The Aristotelian and Baconian formulae[35] might be understood as covering either of these two cases; but my present inquiry demands that they should be distinguished.[36]

Sense II of the word 'cause' is bound up with the idea of a 'practical' science. An 'applied' science, being *qua* science not practical but theoretical, uses the word cause in sense III: a sense in which it is only an 'accident' (in the vocabulary of traditional logic) that knowing a cause enables some one to

[35] Collingwood has quoted the formulas "power over nature" and "knowledge is power."

[36] An analogy seems possible between science and art. As Collingwood now reviews the historical development of the concept of cause, so he reviews the development of art in *The Principles of Art.* The core idea to be formulated and explained there is [9, p. 151],

> By creating for ourselves an imaginary experience or activity, we express our emotions; and this is what we call art.

The possibility of such expression must be developed for its own sake, before anything can be done with it [9, p. 33]:

> These various kinds of pseudo-art are in reality various kinds of use to which art may be put. In order that any of these purposes may be realized, there must first be art, and then a subordination of art to some utilitarian end. Unless a man can write, he cannot write propaganda. Unless he can draw, he cannot become a comic draughtsman or an advertisement artist.

One may not *recognize* that expression is possible for its own sake. Thus what Collingwood calls pseudo-art was once simply art. In Collingwood's present terminology then, this art was not applied, but practical. Today, since we can recognize art as being originally expression, putting it to use makes it applied art, though in its essence it is theoretical, so to speak.

produce the effect, and in which, therefore, the statement 'x causes y' would be in no way invalidated by the statement that x is a thing of such a kind as cannot be produced or prevented by human beings. I am [**299**] not here denying that there is such a sense. What I am doing is to assert that there is another sense, recognizable in actual and long-established usage, in which it is not accidental but essential to the idea of causation that knowing the cause should enable some one to produce the effect, and in which the statement 'x causes y' would be flatly contradicted by the statement that x is a thing of such a kind as cannot be produced or prevented by human beings.[37]

This usage, representing sense II of the word 'cause', can be recognized by two criteria: the thing described as a cause is always conceived as something in the world of nature or physical world, and it is always something conceived as capable of being produced or prevented by human agency.[38] Here are some examples. The cause of malaria is the bite of a mosquito;[39] the

[37]If Collingwood needs to assert the existence of a long-established sense of the word "cause," then the sense must be obsolescent.

[38]A different two-part analysis is that "C causes E in sense II" means, in positive instances, (1) C is sufficient for E, as in note 4, page 28, and (2) we can produce C. In negative instances, (1) C is necessary for E, and (2) we can prevent C.

[39]As far as I can tell, Rex Warner misunderstands this example in saying, in the Editor's Introduction to the Revised Edition of the *Essay* [12, p. lxiii],

> I do not think this focus on manipulable changes, effected by human agents, will work as an explication even of causes in Collingwood's sense II, for Collingwood does allow *some* causes (under this sense) in which the causal action is not a *human* action (is not a case of human agency). Thus, he says (as an example of a sense II cause) that 'the cause of malaria is the bite of a mosquito' (*EM* 299).

The contemplated agent in malaria is not the mosquito, but the human cause of a boat's sinking is her being overloaded; the cause of books going mouldy is their being in a damp room; the cause of a man's sweating is a dose of aspirin; the cause of a furnace going out in the night is that the draught-door was insufficiently open; the cause of seedlings dying is that nobody watered them.

In any one of the above cases, for example the first, the question whether the effect can be produced or prevented by producing or preventing the cause is not a further question which arises for persons practically interested when the proposition that (for example) malaria is due to mosquito-bites has been established; it is a question which has already been answered in the affirmative by the establishment of **[300]** that proposition. This affirmative answer is in fact what the proposition means. In other words: medicine (the science to which the proposition belongs) is not a theoretical science which may on occasion be applied to the solution of practical problems, it is a practical science. The causal propositions which it establishes are not propositions which may or may not be found applicable in practice, but whose truth is independent of such applicability; they are propositions whose applicability is their meaning.

Consider a (hypothetical) negative instance. A great deal of time and money is being spent on 'cancer research', that is, on the attempt to discover 'the cause of cancer'. I submit that the word 'cause' is here used in sense II; that is to say, discovering the cause of cancer means discovering something which it is in the power of human beings to produce or prevent,

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who can drain swamps, or spray poison, or distribute mosquito nets; and here I am only spelling out what is implicit in Collingwood's next paragraph.

by producing or preventing which they can produce or prevent cancer.[40] Suppose some one claimed to have discovered the cause of cancer, but added that his discovery would be of no practical use because the cause he had discovered was not a thing that could be produced or prevented at will.[41] Such a person would be ridiculed by his colleagues in the medical profession. His 'discovery' would be denounced as a sham. He would not be allowed to have done what he claimed to have done. It would be pointed out that he was not using the word 'cause' in the established sense which it bears in a medical context. To use my own terminology, it would be pointed out that he was thinking of medicine as an **[301]** applied science, whereas it is a practical science; and using the word cause in sense III, whereas in medicine it bears sense II.[42]

[40]Socrates says somewhere that the physician can both produce disease and prevent it.

[41]A researcher may announce a discovery that happens to be useless, but it seems unlikely that the researcher will announce the uselessness. However, Hardy does assert plausibly in *A Mathematician's Apology* [23, p. 78],

> A physiologist may indeed be glad to remember that his work will benefit mankind, but the motives which provide the force and the inspiration for it are indistinguishable from those of a classical scholar or a mathematician.

Later he boasts [23, p. 140],

> There is one comforting conclusion which is easy for a real mathematician. Real mathematics has no effect on war. No one has yet discovered any warlike purpose to be served by the theory of numbers or relativity, and it seems very unlikely that anyone will do so for many years.

Collingwood's preface is dated 2 April 1939; Hardy's, 18 July 1940. Hardy turns out to have been wrong about number theory, because of its indispensibility for encryption, which is of military use.

[42]So the hypothetical researcher is not actually wrong to say that X causes cancer, although we have no control over X. He is just using "cause" in sense III. It may also turn into sense II, if we discover how to control X before finding any other way to control cancer. Here we might

This usage of the word is not exclusively modern. It can be traced back through Middle English usages to familiar Latin usages of the word *causa*, and thence to the Greek *αἰτία* and its equivalent *πρόφασις* in, for example, the Hippocratic writings of the fifth century before Christ.

A cause in sense II is never able by itself to produce the corresponding effect. The switch, as I said, only works the light subject to certain indispensable conditions. Among these are the existence of an appropriate current and its maintenance by insulation and contacts. These are called *conditiones sine quibus non*. Their existence, over and above the cause, constitutes one of the differences between sense II and sense III of the word 'cause'. As we shall see in the next chapter, a cause in sense III requires no such accompaniment. A cause in sense II is conditional, a cause in sense III is unconditional. This distinction was correctly understood by John Stuart Mill, whose formal definition of the term 'cause' is a definition of sense

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also recall again Collingwood's notion of the "overlap of classes" (note 11, page 31). Meanwhile, neuroscience may be a source of confusion about cause, when an article can be called "A neuroscientist explains what may be wrong with Trump supporters' brains" [4], and the author proposes answers to the question,

> So how exactly are Trump loyalists psychologically or neurologically different from everyone else? What is going on in their brains that makes them so blindly devoted?

The possible answers are, or come from, (1) "The Dunning–Kruger Effect," (2) "Hypersensitivity to Threat," (3) "Terror Management Theory," and (4) "High Attentional Engagement." However, the author wraps up by saying,

> So what can we do to potentially change the minds of Trump loyalists before voting day in November? As a cognitive neuroscientist, it grieves me to say that there may be nothing we can do. The overwhelming majority of these people may be beyond reach, at least in the short term.

If they are "beyond reach," that would seem to mean we don't know what makes them—*causes* them—to be as they are.

III, but who recognizes that ordinarily when people speak of a cause they are using the word in sense II. A cause, he tells us, is the invariable unconditional antecedent of its effect. This antecedent, he thinks, is always complex, and any one of the elements that go to make it up is called a condition. But what people ordinarily call a cause is one of these conditions, arbitrarily selected, and dignified by a [**302**] mere abuse of language with a name that properly belongs to the whole set.*

Mill deserves great credit for seeing that the word 'cause' was used in these two different ways.[43] But his account of the relation between a cause in sense II and the conditions that accompany it is not quite satisfactory. Closer inspection would have shown him that the 'selection' of one condition to be dignified by the name of cause is by no means arbitrary. It is made according to a principle.[44] The 'condition' which I call the cause (in sense II) of an event in which I take a practical

*'Since then, mankind are accustomed with acknowledged propriety so far as the ordinances of language are concerned, to give the name of cause to almost any one of the conditions of a phenomenon, or any portion of the whole number, *arbitrarily selected,* without excepting even those conditions which are purely negative, and in themselves incapable of causing anything; it will probably be admitted without longer discussion, that no one of the conditions has more claim to that title than another, and that *the real cause of the phenomenon is the assemblage of all its conditions.*' (J. S. Mill, *System of Logic,* Book III, chap. V, § 3; ed. I, vol. i, p. 403, my italics.)

[43] To assign credit is to imply (1) that one is qualified to judge who deserves it, and (2) that the credit one has to offer is desirable. See also note 83, page 76, on feudal deference.

[44] Presumably an arbitrary selection is a *capricious* selection: this is how the word "arbitrary" is used. Etymologically though, an arbitrary selection is a selection by an *arbiter,* a judge. A true judge will use the principle that Collingwood refers to.

interest is the condition I am able to produce or prevent at will.[45] Thus, if my car fails to climb a steep hill, and I wonder why, I shall not consider my problem solved by a passer-by who tells me that the top of a hill is farther away from the earth's centre than its bottom, and that consequently more power is needed to take a car uphill than to take her along the level.[46] All this is quite true; what the passerby has described is one of the conditions which together form the 'real cause' (Mill's phrase; what I call the cause in sense III) of my car's stopping; and **[303]** as he has 'arbitrarily selected' one of these and called it the cause, he has satisfied Mill's definition of what the word ordinarily means. But suppose an A.A. man comes along, opens the bonnet, holds up a loose high-tension lead, and says: 'Look here, sir, you're running on three cylinders'. My problem is now solved. I know the cause of the stoppage. It is the cause, just because it has not been 'arbitrarily selected'; it has been correctly identified as the thing that I can put right, after which the car will go properly. If I had been a person who could flatten out hills by stamping on them the passer-by would have been right to call my attention to the hill as the cause of the stoppage; not because the hill was a

[45] The key word here is "interest," which comes ultimately from the Latin verb *interesse.* Skeat [48] derives our noun more precisely, via French, from the 3rd person singular form, *interest,* of the Latin verb. As for the English verb "interest," it was once "interess," whose past participle "interess'd" became our form of the verb. All of this is corroborated, but not so clearly, and except for the last detail, by the more recent *Oxford Concise Dictionary of English Etymology* [25].

Cause is something that we are *interested* in finding. Originally interest is practical; then it becomes theoretical as well, by an "historical process" such as Collingwood discusses on page 36 in connection with the word "cat."

[46] This kind of absurdity is a basis for jokes told today.

hill but because I was able to flatten it out.

To be precise, the 'condition' which is thus 'selected' is in fact not 'selected' at all; for selection implies that the person selecting has before him a finite number of things from among which he takes his choice. But this does not happen. In the first place the conditions of any given event are quite possibly infinite in number, so that no one could thus marshal them for selection even if he tried. In the second place no one ever tries to enumerate them completely. Why should he? If I find that I can get a result by certain means I may be sure that I should not be getting it unless a great many conditions were fulfilled; but so long as I get it I do not mind what these conditions are. If owing to a change in one of them I fail to get it, I still do not want to know what they all are; I only want to know what the one is that has changed.[47] **[304]**

From this a principle follows which I shall call 'the relativity of causes'.[48] Suppose that the conditions of an event y include three things, α, β, γ; and suppose that there are three persons A, B, C, of whom A is able to produce or prevent α and only α; B is able to produce or prevent β and only β; and C is able to produce or prevent γ and only γ. Then if each of them asks 'What was the cause of y?' each will have to give a different answer. For A, α is the cause; for B, β; and for C, γ. The principle may be stated by saying that *for any given person the cause in sense II of a given thing is that one of its*

[47] Research is not divided into two stages, the first being to assemble all possible causes, and the second, to determine which of them is a condition that one can control. The whole course of research requires an awareness of what one can control. This theme is found in Collingwood's account of historical research in *The Principles of History* [14, pp. 36 f.]:

> . . . A sensible question (the only kind of question that a scientifically competent man will ask) is a question which you think you have or are going to have evidence for answering . . .
>
> It was a correct understanding of this truth that underlay Lord Acton's great precept, 'Study problems, not periods.' . . . Scientific historians study problems: they ask questions, and if they are good historians they ask questions which they see their way to answering. It was a correct understanding of the same truth that led Monsieur Hercule Poirot to pour scorn on the 'human blood-hound' who crawls about the floor trying to collect everything, no matter what, which might conceivably turn out to be a clue; and to insist that the secret of detection was to use what, with possibly wearisome iteration, he called 'the little grey cells'. You can't collect your evidence before you begin thinking, he meant: because thinking means asking questions (logicians, please note), and nothing is evidence except in relation to some definite question.

Collingwood was evidently a fan of detective fiction; in *The Principles of Art* he spoke of the fun it would be to take a break from writing that book, to lie in the garden reading Dorothy Sayers [9, p. 95]. This mention of Sayers is not the one in the book's Index.

[48] This principle is mentioned several times, through the beginning of the next chapter on page 68.

conditions which he is able to produce or prevent.[49]

For example, a car skids while cornering at a certain point, strikes the kerb, and turns turtle. From the car-driver's point of view the cause of the accident was cornering too fast, and the lesson is that one must drive more carefully. From the county surveyor's point of view the cause was a defect in the surface or camber of the road. and the lesson is that greater care must be taken to make roads skid-proof. From the motor-manufacturer's point of view the cause was defective design in the car, and the lesson is that one must place the centre of gravity lower.

If the three parties concerned take these three lessons respectively to heart accidents will become rarer.[50] A knowledge of the causes of accidents will be gained in such a sense that knowledge is power: causes are causes in sense II, and knowledge of the cause of a thing we wish to prevent is (not merely brings, but is) knowledge how to prevent it. As in **[305]** the science of medicine[e] so in the study of 'accidents', where 'accident' means something people wish to prevent, the word 'cause' is used in sense II.

As in medicine, therefore, so in the study of 'accidents' the use of the word in any other sense, or its use by some one who fails to grasp the implications of this sense, leads to confusion.[51] If the driver, the surveyor, and the manufacturer

[49] Surely the person might be able to produce or prevent more than one of the conditions.

[50] Or if *any one of them* takes his own lesson to heart, then accidents will become rarer. But if each of the parties is interested merely in taking his or her own ease, then nothing will happen, because each will put the responsibility on the other persons.

[51] Here is the *practical* reason to distinguish senses of the word "cause."

[e] I would put a comma here, but the original text has none.

agreed in thinking they knew the cause of the accident I have described, but differed as to what it was, and if each thought that it was a thing one of the others could produce or prevent, but not himself, the result would be that none of them would do anything towards preventing such accidents in future, and their so-called knowledge of the cause of such accidents would be a 'knowledge' that was not, and did not even bring, power.[52] But since in the present context the word 'cause' is used in sense II, the reason why their 'knowledge' of the 'cause' of such accidents does not enable them to prevent such accidents is that it is not knowledge of their cause. What each of them mistakes for such knowledge is the following nonsense proposition: 'the cause of accidents like this is something which somebody else is able to produce or prevent, but I am not.' Nonsense, because 'cause' means 'cause in sense II', and owing to the relativity of causes 'the cause of this accident' means 'that one of its conditions which I am able to produce or prevent'.[53] Hence the folly of blaming other people in respect of an event in which we and they are together involved. Every one knows that such blame is foolish; **[306]** but without such an analysis of the idea of causation as I am here giving it is not easy to say why.[54]

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[52] Except the power of complaining about the negligence of other people.

[53] Collingwood has allowed that there may be other senses of the word "cause" than the three that he has enumerated. Why should the word as used in the "nonsense proposition" be interpreted in such a way as to make the proposition nonsense? Perhaps because Collingwood is a practical man. He is responding to persons who would seem to be trying to avoid taking action.

[54] More needs to be said here. I do not suppose Collingwood is recommending stoicism. It is foolish to blame others for one's own problems; and yet sometimes complaints have an effect. Istanbul's Gezi Park would be gone now, if people had not complained about its planned

In medicine the principle of the relativity of causes means that, since any significant statement about the cause of a disease is a statement about the way in which that disease can be treated, two persons who can treat the same disease in two different ways will make different statements as to its cause. Suppose that one medical man can cure a certain disease by administering drugs, and another by 'psychological' treatment. For the first the 'cause' of the disease will be definable in terms of bio-chemistry; for the second in terms of psychology. If the disease itself is defined in terms of bio-chemistry, or in terms that admit of explanation or analysis in bio-chemical language, the definition of its cause in terms of psychology may be thought to imply an 'interactionist' theory of the relation between body and mind; and may be thought objectionable in so far as such theories are open to objection. But this would be a mistake.[55] Definition of its cause in terms of psychology implies no theory as to the relation between body and mind. It simply records the fact that cases of the disease have been successfully treated by psychological methods, together with the hope that psychological methods may prove beneficial in future cases. To speak of this as 'evidence for an interactionist theory' would be to talk nonsense.

A corollary of the relativity principle is that *for a person*

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destruction.

[55] Collingwood himself ridicules and refutes "Psycho-physical Interactionism" in Chapter II, "The Relation Between Body and Mind," of *The New Leviathan* [13, p. 10], by pointing out that no physicist will accept it. The philosopher is not allowed to tell the practical person (the physicist who is getting results) what she can do. Collingwood argues likewise now; the philopher who (however rightly) rejects "interactionism" cannot tell the the medical doctor what words to use to describe effective treatments. It is for the philosopher to understand what the words *mean.* See page 62 and note 63.

who is not able to produce or prevent any of its conditions a given event has no cause in sense II at all, [**307**] and any statement he makes as to its cause in this sense of the word will be a nonsense statement. Thus the managing director of a large insurance company once told me that his wide experience of motor accidents had convinced him that the cause of all accidents was people driving too fast. This was a nonsense statement; but one could expect nothing better from a man whose practical concern with these affairs was limited to paying for them.[56] In sense II of the word 'cause' only a person who is concerned with producing or preventing a certain kind of event can form an opinion about its cause. For a mere spectator there are no causes.[57] When Hume tried to explain how the mere act of spectation could in time generate the idea of a cause, where 'cause' meant the cause of empirical science, that is, the cause in sense II, he was trying to explain how something happens which in fact does not happen.[58]

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[56] Are such supercilious statements a reason why Collingwood is little read? Do they put people off, as Blackburn suggested in the quotation on page 13? Collingwood has a good point: One cannot—and therefore should not try to—pass judgment on matters that one cannot influence. But then is the insurance company director under Collingwood's influence? In any case, the director's job is not exactly to pay for accidents, but to avoid paying for them. He may be able to do this by advising people on how to drive better. Possibly Collingwood felt that the director's "advice" was not being offered in the correct spirit. Or perhaps he understood the advice was an unintended joke, since every car accident can be blamed on excessive speed. Two stationary vehicles will never collide.

[57] And yet spectators are always telling other people what they ought to do, or ought to have done.

[58] Collingwood refers to what happens, or not, "in fact"; but he is speaking of a *mere* spectator, and strictly speaking there is no such person. Everybody has experience of *doing* as well as *watching*, and this is why

If sciences are constructed consisting of causal propositions in sense II of the word 'cause', they will of course be in essence codifications of the various ways in which the people who construct them can bend nature to their purposes, and of the means by which in each case this can be done. Their constituent propositions will be (*a*) experimental, (*b*) general.

(*a*) In calling them experimental I mean that they will be established by means of experiment. No amount of observation will serve to establish such a proposition; for any such proposition is a declaration of ability to produce or prevent a certain state of things by the use of certain means; and no one knows **[308]** what he can do, or how he can do it, until he tries.[59] By observing and thinking he may form the opinion that he can probably do a given thing that resembles one he has done in the past; he may, that is, form an opinion as to its cause;[60] but he cannot acquire knowledge.

(*b*) Because the proposition 'x causes y', in sense II of the word 'cause', is a constituent part of a practical science, it is essentially something that can be applied to cases arising in practice; that is to say, the terms x and y are not individuals but universals, and the proposition itself, rightly understood, reads 'any instance of x is a thing whose production or prevention is means respectively of producing or preventing

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they can complain about what other people fail to do: from their own experience, they think they themselves could do it. See note 59.

[59] Nobody knows what she can do until she tries. A key point.

[60] This way of forming an opinion might be what is called "thought experiment" (see also note 76, page 72). In any case, it is not based on *mere* thought, but thought as based on past experience, as Collingwood seems to acknowledge. But then *all* thought would seem to be based on *past* experience. And yet we can distinguish past experience from experience that is being kept current through continual exercise and renewal.

some instance of *y*'. It would be nonsense, in this sense of the word 'cause', to inquire after the cause of any individual thing as such.[61] It is a peculiarity of sense II that every causal proposition is a general proposition or 'propositional function'. In sense I every causal proposition is an individual proposition. In sense III causal propositions might equally well be either individual or general.[62]

If the above analysis of the cause-effect relation (in sense II) into a means-end relation is correct, why do people describe this means-end relation in cause-effect terminology? People do not choose words at random; they choose them because they think them appropriate.[63] If they apply cause-effect terminol-

[61] *Blame* or *responsibility* is assigned in individual cases. But here we are alluding to sense I of "cause." A state of affairs cannot be to blame for anything, but the humans who created the state of affairs are to blame. Metaphorically though, we may blame the damn car for the accident. Is this another remnant of animism (note 31, page 46)? Collingwood has pointed out (page 32) that metaphorical uses of words are still proper. Now he seems to accepts the distinction between metaphorical and literal uses. In *Religion and Philosophy*; Part III, "From Metaphysics to Theology"; Chapter III, "Miracle"; §3, (*b*), ii. (the last division of the book), he would seem to dispense with the distinction [7, p. 212]:

> Granted—and by now we seem bound to grant—that a ball, let drop, falls in virtue not of an inexorable law but of a volition, and that the volition might will otherwise, we may still say that the possibility of a ball's thus changing its habits need not seriously disturb our practical calculations. We have to deal not only with things, but with men; and if the engineer feels justified in calculating the strength of his materials on a basis of absolute uniformity, the organiser of labour is no less ready to calculate the average output of a workman and to act on his calculations. If we try to carry the principle of uniformity too far, it will fail us whether our assumption is that any man will write an equally good epic or that any steel will make an equally good razor.

Then, everything was alive; now, Collingwood is more practical—in particular, more concerned with the current state of science as it is understood by its practitioners.

[62] I quote this sentence in note 4, page 28.

[63] Right; but sometimes, it would seem, they think incorrectly.

ogy to things whose relation is really that of means and end the reason must be that they want to apply to those things some idea which is conveyed by the **[309]** cause-effect terminology and not by the means-end terminology. What is this idea? The answer is not doubtful. The cause-effect terminology conveys an idea not only of one thing's leading to another but of one thing's forcing another to happen or exist; an idea of power or compulsion or constraint.

From what impression, as Hume asks, is this idea derived? I answer, from impressions received in our social life, in the practical relations of man to man; specifically, from the impression of causing (in sense I) some other man to do something when, by argument or command or threat or the like, we place him in a situation in which he can only carry out his intentions by doing that thing; and conversely, from the impression of being caused to do something.

Why, then, did people think it appropriate to apply this idea to the case of actions in which we achieve our ends by means, not of other human beings, but of things in nature?

Sense II of the word 'cause' is especially a Greek sense; in modern times it is especially associated with the survival or revival of Greek ideas in the earlier Renaissance thinkers; and both the Greeks and the earlier Renaissance thinkers held quite seriously an animistic theory of nature. They thought of what we call the material or physical world as a living organism or complex of living organisms, each with its own sensations and desires and intentions and thoughts. In Plato's *Timaeus*, and in the Renaissance Platonists whose part in the formation of modern natural science was so decisive, the constant use of language with **[310]** animistic implications is neither an accident nor a metaphor; these expressions are meant to be taken literally and to imply what they seem to imply, namely that the way in which men use what we nowadays call inorganic nature as means to our ends is not in principle different from the way in which we use other men. We use other men by assuming them to be free agents with wills of their own, and influencing them in such a way that they shall decide to do what is in conformity with our plans. This is 'causing' them so to act in sense I of the word 'cause'. If 'inorganic nature' is alive in much the same way as human beings, we must use it according to much the same principles; and therefore we can apply to this use of it the same word 'cause', as implying that there are certain ways in which natural things behave if left to themselves, but that man, being more powerful than they, is able to thwart their inclination to behave in these ways and make them behave not as they like but as he likes.

To sum up. Sense II of the word 'cause' rests on two different ideas about the relation between man and nature.[64]

1. The anthropocentric idea that man looks at nature from his own point of view; not the point of view of a thinker, anxious to find out the truth about nature as it is in itself, but the point of view of a practical agent, anxious to find out how he can manipulate nature for the achieving of his own ends.

2. The anthropomorphic idea that man's manipulation of nature resembles one man's manipulation **[311]** of another man, because natural things are alive in much the same way in which men are alive, and have therefore to be similarly handled.

The first idea is admittedly part of what civilized and ed-

[64]In Chapter XXXIII, "Causation in Kantian Philosophy," page 94, we shall see the anthropocentric and anthropomorphic *dilemmas,* constituting the insecure foundation of nineteenth-century science: do we still use cause in sense II?

ucated European men nowadays think about their relations with nature. The second idea is part of what they notoriously did think down to (say) four centuries ago. How they began to get rid of this idea, and how completely they have even now got rid of it, are questions I shall not raise. My point is that even to-day, when they use the word 'cause' in sense Il, they are talking as if they had not yet entirely got rid of it. For if the vocabulary of practical natural science were overhauled with a view to eliminating all traces of anthropomorphism, language about causes in sense II would disappear and language about means and ends would take its place.

Fifty years ago, anthropologists were content to note the fact that 'survivals' occur. Since then, they have seen that the occurrence of such things constitutes a problem, and a difficult one.[65] 'Students have made some progress in ascertaining what causes folklore to decay, but what causes the surviving elements to survive? What vacuum does the survival fill? . . . These questions . . . remain a problem for the future.'[*] What causes the survival of language which taken literally implies the survival of supposedly obsolete thought-forms is, I submit, the fact that <u>these thought-forms are not so dead as they are supposed to be</u>. It is certainly true that modern **[312]** natural science has tried very hard to expel anthropomorphic elements from its conception of nature. Among natural scientists to-day it is orthodox to take the will for the deed. For the historical metaphysician it is a question how far this anti-anthropomorphic movement has been successful. The continued use of the word 'cause' in sense II is prima-facie evidence

*Charlotte S. Burne, *Folklore,* vol. xxii (1911), p. 37.

[65]Collingwood's interest in anthropology is shown in *The Principles of Art* [9] and the postumous *Philosophy of Enchantment* [16].

that its success has not been complete.

XXXII
CAUSATION IN THEORETICAL NATURAL SCIENCE

SENSE III of the word 'cause' represents an attempt to apply it not to a 'practical' but to a 'theoretical' science of nature. I shall first explain the characteristics which would belong to this sense if the attempt were successful, and then consider certain difficulties which in the long run prove fatal to it.[66]

In the contingent world to which sense II belongs a cause is contingent (a) in its existence, as depending for its existence on human volition, (b) in its operation, as depending for the production of its effect on *conditiones sine quibus non.* In the necessary world to which sense III belongs a cause is necessary (a) in its existence, as existing whether or no human beings want it to exist, (b) in its operation, as producing its effect

[66]Collingwood does this—explain characteristics and consider difficulties—also in the subsection of *Religion and Philosophy* on "The paradox of causation" already cited (notes 9 and 25, pages 30 and 41). He says at the head of the chapter, "Matter" [7, p. 72],

> POPULAR metaphysic distinguishes two categories of reality, mind and matter . . . Matter is thus subject to the law of causation, the law that whatever happens has a cause, external to itself, which determines it to happen in this way and in no other. This law of causation does not apply to mind, whose changes of state are initiated freely from within, in the form of acts of will. These acts of will may influence matter, but they cannot alter or in any way affect the operation of the laws which govern the movements of matter.

The cause considered is only of sense III. Kant's "law of causation" is considered in the next chapter (page 88).

no matter what else exists or does not exist. There are no *conditiones sine quibus non.* The cause leads to its effect by itself, or 'unconditionally'; in other words the relation between cause and effect is a one-one relation. There can be no relativity of causes, and no diversity of effects due to fulfilment or nonfulfilment of conditions.[67]

I propose to distinguish the one-many and many-one* character of the cause-effect relation in sense II [**314**] from its one-one character in sense III by calling these senses *loose* and *tight* respectively. A loose cause requires some third thing

*One-many, because a cause in sense II leads to its effect only when the *conditiones sine quibus non* are fulfilled. Many-one, because of the relativity of causes (see p. 304 [our page 56]).[68]

[67] Collingwood reasons this out in *Religion and Philosophy* [7, pp. 83 f.], in (i) of the subsection already cited (see note 9, page 30):

> If we search for the particular cause of a given particular effect, we shall find this cause to be invariably complex, even when it is often described as simple. Thus, the gale last night blew down a tree in the garden. But it would not have done so except for many other circumstances. We must take into account the strength of the tree's roots, its own weight, the direction of the wind, and so on. If some one asks, "why did the tree fall?" we cannot give as the right and sufficient answer, "because of the wind." We might equally well give a whole series of other answers: "because the wind was in the north-west"; "because the tree had its leaves on"; "because I had not propped it"; and so on. Each of these answers is a real answer to the question, but none of them is the only answer or the most right answer. No one of them can claim to give the cause in a sense in which the others do not give the cause. Is there then, we may ask, such a thing as *the* cause at all? is there not simply a number of causes? No, there does seem to be one cause and no more; but that cause is not one simple event but a large, indeed an infinitely large, number of events and conditions all converging to the one result.

The conclusion is, "The only real cause seems to be a total state of the universe." Collingwood will presently go through a similar chain of reasoning concerning action at a distance.

[68] I do not know why the meanings of "one-many" and "many-one" should be assigned thus, and not the other way around. Only one of the terms will be used again, and only once, on page 70.

other than itself and its effect to bind the two together, namely a group of *conditiones sine quibus non*; a tight cause is one whose connexion with its effect is independent of such adventitious aids.

In order to illustrate the implications of sense III, I will refer to the contradiction between the traditional denial of *actio in distans* (which, I suppose, would hold as against action across a lapse of time no less than across a distance in space) and the assumption, commonly made nowadays, that a cause precedes its effect in time. I shall argue that <u>*actio in distans* is perfectly intelligible in sense II but nonsense in sense III</u>.

If I set fire to one end of a time-fuse, and five minutes later the charge at its other end explodes, there is said to be a causal connexion between the first and second events, and a time interval of five minutes between them. But this interval is occupied by the burning of the fuse at a determinate rate of feet per minute; and this process is a *conditio sine qua non* of the causal efficacy ascribed to the first event. That is to say, the connexion between the lighting of the fuse and the detonation of the charge is causal in the loose sense, not the tight one. If in the proposition 'x causes the explosion' we wish to use the word 'cause' in the tight sense, x must be so defined as to include in itself every such *conditio sine qua non*. It must include the burning of the whole fuse; not its burning until 'just **[315]** before' that process reaches the detonator, for then there would still be an interval to be bridged, but its burning until the detonator is reached. Only then is the cause in sense III complete; and when it is complete it produces its effect, not afterwards (however soon afterwards) but then. Cause in sense III is simultaneous with effect.

Similarly, it is coincident with its effect in space. The cause of the explosion is where the explosion is. For suppose x causes

y, and suppose that x is in a position p_1 and y in a position p_2, the distance from p_1 to p_2 being δ. If 'cause' is used in sense II, δ may be any distance, so long as it is bridged by a series of events which are *conditiones sine quibus non* of x causing y. But if 'cause' is used in sense III, δ must $= 0$. For if it did not, p_2 would be any position on the surface of a sphere whose centre was p_1 and whose radius would $= \delta$; so the relation between p_1 and p_2 would be a one-many relation. But the relation between x and y, where x causes y in sense III, is a one-one relation. Therefore, where δ does not $= 0$, x cannot cause y in sense III.[69]

The denial of *actio in distans*, spatial or temporal, where the 'agent' is a cause in sense III, is therefore not a 'prejudice'* but is logically involved in the definition of sense III.[70]

The main difficulty about sense III is to explain what is meant by saying that a cause 'produces' or 'necessitates' its effect. When similar language is used of senses I and II we know what it means. In sense I **[316]** it means that x affords somebody a motive for doing y; in sense II, that x is somebody's means of bringing y about.[71]

But what (since it cannot mean either of these) does it mean in sense III?

*As Russell calls it: *Mysticism and Logic,* cit., p. 192.

[69] The technical symbols obscure the point, which seems to be this: If lighting a fuse causes an explosion ten feet away, then it ought to cause an explosion at every point that is ten feet away, unless there are some additional *conditiones sine quibus non*; and this shows that "cause" is being used in sense II.

[70] Collingwood's logic must not be universally recognized, if its result can be considered a prejudice.

[71] In short, heretofore, instances of producing or necessitating involved a person, an agent.

There are two well-known answers to this question, which may be called the rationalist and empiricist answers respectively.

(i) The rationalist answer runs: 'necessitation means implication'.[72] A cause, on this view, is a 'ground', and its relation to its effect is the relation of ground to consequent, a logical relation. When some one says that x necessitates y he means on this view that x implies y, and is claiming the same kind of insight into y which one has (for example) into the length of one side of a triangle given the lengths of the other two sides and the included angle.[73] Whatever view one takes as to the nature of implication, one must admit that in such a case the length of the third side can be ascertained without measuring it and even without seeing it, e.g. when it lies on the other side of a hill.[74] The implication theory, therefore, implies that 'if

[72] This is wrong, because mathematical deduction is simply not how we draw conclusions about the physical world. Read on and see note 78.

[73] "Synthetically," the length is determined by what Euclid proves as Proposition 4 of Book I of the *Elements* [19, 20, 21], according to the principle suggested in one of the Common Notions, that equal segments and angles are congruent. "Analytically," the length is determined by the Law of Cosines, $a^2 = b^2 + c^2 - 2bc\cos\alpha$, where a, b, and c are the sides of the triangle, and α is the angle subtended by a.

[74] The proposed logical deduction is based on the assumption (or presupposition)[i] that the world is indeed Euclidean, so that the Law of Cosines holds. We are (and were in Collingwood's day) aware of other possibilities. The determination of the *correct* possibility would seem to be based on observation. In each triangle heretofore measured, the

[i] In Chapter IV, "On Presupposing," of the *Essay,* on the original page 27, Collingwood makes the definition, "*To assume is to suppose by an act of free choice.*" The reason to make the distinction is that some suppositions are not chosen, either because one is unaware of them, or because one is unaware of alternatives.

the cause is given the effect follows', not only in the sense that whenever the cause actually exists the effect actually follows, but that from the thought of the cause the thought of the effect follows logically. That is to say, any one who wishes to discover the effect of a given thing x can discover the answer by simply thinking out the logical implications of x. Nothing in the nature of observation or experiment is needed.[75]

This is in itself a tenable position in the sense that, if any one wants to construct a system of science in **[317]** which the search for causes means a search for grounds, there is nothing to prevent him from trying.[76] This was in fact what Descartes tried to do. His projected 'universal science' was to be a system of grounds and consequents. And if, as is sometimes said, modern physics represents a return in some degree to the Cartesian project, it would seem that the attempt is being made once more. But the rationalist theory of causation, however

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angles are equal to two right angles, as is predicted by Proposition 32 of Book I of Euclid's *Elements* [19]. We assume then that the same will be true for every triangle. However, we have no *reason* to make this assumption, beyond a conviction that the world ought to have uniform unchanging curvature—and therefore, according to our observations, zero curvature. Even if we question this conviction, there is a deeper one that remains: the world *is* geometrical, in the current sense: it is a *manifold,* it is "locally Euclidean."

[75] Except the observations mentioned in the previous note (note 74). And those observations do not prove conclusively that the world is Euclidean; so one should continue to measure the angles of triangles, just to make sure. We can understand the implication theory to be that there are axioms of the world that logically determine its progress; but the axioms must be found by observation. However, this may not be enough for a true "implication theory," which might require us to understand the world entirely *a priori.* See Collingwood's next paragraph.

[76] And how is this search to be carried out: by experiment, or by the kind of "thought experiment" mentioned in note 60, page 61?

valuable it may be as the manifesto of a particular scientific enterprise, cannot be regarded as an 'analysis' of the causal propositions asserted by natural science as it has existed for the last few centuries. If it were accepted, these propositions would have to be abandoned as untrue. For no one believes that they can be established by sheer 'thinking', that is, by finding the so-called effects to be logically implied in the so-called causes.[77] It is just because this is impossible that the questions what causes a given effect and what effect a given cause produces have to be answered by observation and experiment. Hence the result of establishing a science of the Cartesian type would be not an analysis of propositions of the type 'x causes y' into propositions of the type 'x implies y' but the disuse of causal propositions in that kind of science and the use of implicational propositions instead;[78] while in the sci-

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[77]It appears that string-theorists do try to work out the underlying nature of the world by sheer thinking:

> Disagreement and controversy are of course necessary for science to progress, but there is always supposed to be a way to resolve a dispute by means of experiment or mathematics. In the case of string theory, however, this mechanism seems to have broken down. Many adherents and critics of string theory are so confirmed in their views that it is difficult to have a cordial discussion on the issue, even among friends. "How can you not see the beauty of the theory? How could a theory do all this and not be true?" say the string theorists. This provokes a heated response from skeptics: "Have you lost your mind? How can you believe so strongly in *any* theory in the complete absence of experimental test? . . . "

This Lee Smolin in *The Trouble With Physics* [49, p. xviii]. See also page 102 and note 115 on conflict in physics.

[78]These "implicational propositions" may continue to use the language of causation. Our present aim is to understand what people *mean* by the words that they use. Causation simply does not normally mean logical implication, regardless of whether one decides that instances of what is normally called causation are "really" instances of logical implication. If a schoolchild says, "I don't want no Brussels sprouts!" and a teacher

ences of observation and experiment causal propositions not analysable into implicational propositions would still be used; the meaning of 'necessity' in these causal propositions being still doubtful.[79] [**318**]

This situation would not be illuminated by alleging that the sciences in which causal propositions occur are 'backward' or 'immature sciences'. Such a statement would imply that the idea of causation is a half-baked idea which when properly thought out will turn into the different idea of implication. This I take to be the Hegelian theory of the dialectic of concepts, and if any one wishes to maintain it I do not want to forbid him; but I must observe that it does not excuse him from answering the question what the half-baked idea is *an sich*, that is, before its expected transformation has happened.[80]

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tries to correct the grammar by saying, "The double negative means you *do* want Brussels sprouts," the teacher is wrong, regardless of the theory of grammar taught be the school.

[79]Collingwood's conclusion (on page 86) is going to be that modern physics "has eliminated the notion of cause altogether." And yet physics continues be a "science of observation and experiment." Still, there are university departments of physics where (as far as I know) no experiments are actually done; it might be said that these departments are doing "science of the Cartesian type," though presumably their work is based on experiments that have been done elsewhere. And I suppose that actual experimenters will be *thinking* in terms of cause and effect.

[80]Collingwood gives his own answer, starting on page 78: causation means compulsion in a human or "anthropomorphic" sense, and this meaning is a remnant of animist, Neoplatonic theology. Meanwhile, Collingwood has been showing, and will continue to show, that other attempts to explain causation are really attempts to *avoid* explaining it. Collingwood's purpose can be seen, even in the names he has assigned to two attempted explanations: rationalist and empiricist. He will assign the name "functionalist" to a third attempt. These are all names of attempts to explain the *world*: and since there is causation

(ii) I turn to the empiricist answer: 'necessitation means observed uniformity of conjunction'. Like the former answer this one cannot be taken literally; for no one, I think, will pretend that the proposition 'x necessitates y' means merely 'all the observed x's have been observed to be conjoined with y's', and does not also mean 'x's' observed in the future will also be conjoined with y's'. In fact the question (so urgent for, e.g., Hume and Mill) how we proceed from the mere experience of conjunction to the assertion of causal connexion resolves itself into the question how we pass from the first of these to the second.[81] For Hume and Mill the proposition 'all the observed x's have been observed to be conjoined with y's' is not what we mean by saying 'x necessitates y', it is only the empirical evidence on the strength of which we assert the very different proposition 'x necessitates y'. Thus, if any one says 'necessitation means observed uniformity of conjunction', it must be sup- **[319]** posed either that he is talking without thinking; or that he is carelessly expressing what, expressed more accurately, would run: 'necessitation is something we assert on the strength of observed uniformity of conjunction', without telling us what he thinks necessitation to be; or, thirdly, that

in the world, an explanation of the world will explain causation. But it is a *presupposition* that there is causation in the world, a presupposition that is apparently jettisoned by rationalism and empiricism, even though these schools may possibly retain the *terminology* of causation. But what does causation mean, *before* one becomes a rationalist or empiricist? This is the question. It is an historical question. It is *a priori* possible that one was a rationalist or empiricist all along; but Collingwood is showing that one in fact was not.

[81] If Collingwood's assertion is not tautological, the question of how conjunction becomes causation "resolves itself" into the question of how, in the statement "the observed x have been conjoined with the y," the auxiliary verb "have been" becomes "will be."

he is expressing still more carelessly what should run: 'in order to assert a necessitation we must pass from the first of the above propositions to the second; now I cannot see how this is possible; therefore I submit that we ought never to assert necessitations, but on the occasions when we do assert them we ought to be asserting something quite different, namely observed conjunction'. Necessitation being again left undefined.[82]

(iii) A third answer to our question has been given by Earl Russell, in a paper* of very great importance, to which I have already referred; but I want here and now to express my great admiration for it and my great indebtedness to it.[83] He says: '*necessary* is a predicate of a propositional function meaning that it is true for all possible values of its argument or arguments'. This I will call the 'functional' answer. In so far as it amounts to saying that causation in sense III implies a one-one relation between cause and effect, I entirely agree. But I find myself, very reluctantly, unable to accept all of what

*'On the Notion of Cause', referred to on p. 69, above [not in the present extract].

[82]Undefined, not in the way a geometer might leave terms like "point" and "line" undefined, but because, as in the last note (note 80), the empiricist is *avoiding* an explanation of necessitation or causation.

[83]To say that one is indebted is to imply that one can repay the debt, at least in theory. It puts the debtor on a level with the lender, or at least it connects the two. And in the present case the lender has been given his aristocratic title. I detect a *survival* (in the sense of page 65) of feudalism. Note also the "reluctance," later in the paragraph, to traverse the lord. Perhaps this is all standard etiquette. See note 43, page 53, on credit to Mill, but also Collingwood's approving quotation of Russell's republican sentiments on page 101: "The law of causality . . . is a relic of a bygone age, surviving, like the monarchy, only because it is erroneously supposed to do no harm."

I take Earl Russell to mean. I will give two examples.

(α) How, on the functional theory, could any one ever know a causal proposition to be true,[84] or even know that the facts in his possession tended to justify [**320**] a belief in it? Only, so far as I can see, if there is a relation of implication between x and y. For 'all *possible* values' of x may be an infinite number; and, even if they are not, it may not be practicable to examine them individually. If a, b, c are the sides of any triangle, we know that $a+b-c$ will always be a positive quantity, because that is implied in the definition of a triangle.[85] Thus the functional theory presupposes the rationalistic or implicational theory, which I have already given reasons for rejecting.

(β) I do not know whether Earl Russell, in the sentence quoted above, wished to be understood as meaning that the word 'necessary' has no other meaning than that which he there ascribes to it. If so, he was mistaken. It has another meaning, which is in fact its original meaning. Just as the original sense of the word 'cause' is what I have called the historical sense, according to which that which is caused is the act of a conscious and responsible agent, so the original sense of the word 'necessary' is an historical sense, according to which it is necessary for a person to act in a certain way: deciding

[84]By the account in Chapter IV, "On Presupposing," of the *Essay* (mentioned also in note i on note 74, page 71), a *proposition* is true or false, because it is the answer to a question; an *absolute presupposition,* not being the answer to a question, is not true or false, and so it is not a proposition.

[85]As a mathematician I would say that the assertion is the content of Proposition 20 of Book I Euclid's *Elements* [19, 20, 21], which is implied ultimately by Euclid's postulates and "common notions"; Moderns may say there are some "hidden assumptions" involved in the implication as well. In any case, as far as Collingwood can tell (or I, for that matter), only logical implication can give us infinitely many conclusions.

so to act and acting therefore freely and responsibly, yet (in a sense which in no wise derogates from his responsibility) 'necessitated' to act in that way by certain 'causes', in sense I of the word 'cause'.

Even if Earl Russell does not wish to deny that the word 'necessary' has this historical sense, I cannot think that his failure to mention it is well advised. This original sense of the word 'necessary' is just as much the foundation on which the other senses of the **[321]** word 'necessary' have been built, as the corresponding sense of the word 'cause' (sense I, the 'historical' sense) is the foundation on which have been built the other senses of the word 'cause'. Between the respective histories of these two words there is not only parallelism, there is interconnexion. It is therefore very natural that Earl Russell should appeal to the word 'necessary' in his attempt to clear up the meaning of the word 'cause'. But the metaphysical problems connected with the idea of causation are historical problems, not to be solved except by historical treatment; and if the history of the word 'necessary' has run on parallel lines to the history of the word 'cause', the appeal from the latter to the former is scientifically barren, because it takes us not from one problem to the solution of that problem, but from one unsolved problem to another unsolved problem of the same kind.

Most[86] people think that when we use the word 'causation' in sense III we mean to express by it something different from logical implication, and something more than uniformity of conjunction, whether observed only, or observed in the past

[86]This paragraph could begin with "(iv)," as giving Collingwood's own answer to the question of "what is meant by saying that a cause 'produces' or 'necessitates' its effect" in sense III.

and also expected in the future; and that this 'something different' and 'something more' is in the nature of compulsion. On the historical issue of what has actually been meant when words have actually been used, this is correct.

Earl Russell (op. cit., p. 190) argues that people cannot mean this because (as he very truly says) 'where desire does not come in, there can be no [**322**] question of compulsion'. All the same, as I shall now try to show, they do mean this.[87] Causation in sense III is an anthropomorphic idea. Natural scientists have tried to use it as a weapon for attacking anthropomorphic conceptions of nature; but it has been a treacherous weapon. It has led them unawares to reaffirm the view they were attacking. And that may be why, in Earl Russell's own words, 'physics has ceased to look for causes' (op. cit., p. 180).

We found the idea of compulsion present in sense II of the word 'cause'.[88] From what impression, we then asked, is this idea derived? We now find it present in sense III, and we must ask the same question, and answer it in the same way. The idea of compulsion, as applied to events in nature, is derived from our experience of occasions on which we have compelled others to act in certain ways by placing them in situations (or calling their attention to the fact that they are in situations) of such a kind that only by so acting can they realize the intentions we know or rightly assume them to entertain: and conversely, occasions in which we have ourselves

[87] They *do* mean it, and yet they *cannot* mean it, because it requires conflicting presuppositions. We are in fact capable of having conflicting presuppositions, as when, in Book VI of the *Iliad* [26], in meeting with Andromache and their son Astyanax in Troy, Hector is both sure that the city will be destroyed, and confident that the boy will have the chance to rule the city.

[88] On page 63.

been thus compelled. Compulsion is an idea derived from our social experience, and applied in what is called a 'metaphorical' way not only to our relations with things in nature (sense II of the word 'cause') but also to the relations which these things have among themselves (sense III). Causal propositions in sense III are descriptions of relations between natural events in anthropomorphic terms.

The reason why we are in the habit of using these **[323]** anthropomorphic terms is, of course, that they are traditional. Inquiry into the history of the tradition shows that it grew up in connexion with the same animistic theory of nature to which I referred in discussing sense II of the word 'cause', but that in this case the predominant factor was a theology of Neoplatonic inspiration.

If a man can be said to cause certain events in nature by adopting certain means to bringing them about, and if God is conceived semi-anthropomorphically* as having faculties like

*I distinguish an anthropomorphic conception of God (cf. p. 185) from a semi-anthropomorphic. An anthropomorphic God would be simply what Matthew Arnold called a 'magnified nonnatural man'. His attributes would be merely the attributes of man, enlarged. For example, he would be liable to anger, but his anger would be a more formidable thing than man's. A semi-anthropomorphic God would be the result of criticizing this childish idea in the light of the reflection that, if God is really greater than man, he cannot have those attributes which in man are due to man's littleness; e.g. anger, which comes of being thwarted.[89]

[89]The sense of "semi-anthropomorphic" will be spelled out further on page 82; meanwhile, Chapter X, "Passion," of the *New Leviathan* [13, pp. 70 f.] spells out the meaning of anger:

> **10. 43.** In anger you have no consciousness of being angry; that comes only with reflection upon anger; what you are aware of is simply a contrast betweeen yourself and something (you know not what) other than yourself. This is the intellectual element in anger. It is identical with the intellectual element in fear.

those of the human mind but greatly magnified, it will follow that God also will be regarded as bringing about certain things in nature by the adoption of certain means.

Now comes a step in the argument which, if we tried to reconstruct it without historical knowledge, we should probably reconstruct wrongly. If x is a thing in nature produced by God as a means of producing y, we might fancy x to be a purely passive instrument in God's hand, having no power of its own, but 'inert', as Berkeley in the true spirit of post-Galilean physics insists that matter must be. And in [**324**] that case God alone would possess that compulsive force which is expressed by the word 'cause'; that word would not be given as a name to x, and God would be the sole cause.[90]

Actually, God is for medieval thinkers not the sole cause but the first cause. This does not mean the first term in a series of efficient causes (a barbarous misinterpretation of the phrase), but a cause of a peculiar kind, as distinct from 'secondary causes'. The *Liber de Causis*, a Neoplatonic Arabic work of the ninth century,[91] whose influence on medieval cosmology was at this point decisive, lays it down that God in creating certain instruments for the realization of certain ends confers upon these instruments a power in certain ways like his own, though inferior to it.

Thus endowed with a kind of minor and derivative godhead,

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10. 44. The difference is purely practical. You conceive yourself as 'contradicted' or 'contrasted with' by the not-self (10. 27). The simplest thing to do is lie down under this menace. That is fear. The alternative is to rebel against it. That is anger.

[90] Passive things cannot be causes. This is in accord with the assertion of Chapter XXX (starting on page 38) that causes are not *mere* situations or desires.

[91] According to *Wikipedia,* this work was once attributed to Aristotle.

these instruments accordingly acquire the character of causes, and constitute that division of nature which, according to John the Scot, 'both is created and creates'. Their causality is thus a special kind of causality existing wholly within nature, whereby one thing in nature produces or necessitates another thing in nature. The words 'produces' and 'necessitates' are here used literally and deliberately to convey a sense of volition and compulsion; for the anthropomorphic account of natural things is taken as literally true; the activity of these secondary causes is a scaled-down version of God's and God's is a scaled-up version of man's.

This idea of God is only semi-anthropomorphic, **[325]** because it implies the ascription to God of a power not belonging to man, the power of creating instruments of His will which are themselves possessed of will.

This was the atmosphere in which our modern conception of nature took shape. For in the sixteenth and seventeenth centuries, when the animistic conception of nature was replaced among scientists and philosophers by a mechanistic one, the word 'cause' was not a novelty; it was a long-established term, and its meaning was rooted in these Neoplatonic notions.

Thus when we come to Newton, and read (e.g.) the *Scholium* appended to his Definitions, we find him using as a matter of course a whole vocabulary which, taken literally, ascribes to 'causes' in nature a kind of power which properly belongs to one human being inducing another to act as he wishes him to act. Causes are said, in the twelfth paragraph of that *Scholium*, to be 'forces impressed upon bodies for the generation of motion. True motion is neither generated nor altered, but by some force impressed upon the body moved.' The cause, for Newton, is not that which impresses the force, it is the force itself.[92]

Here and throughout his treatment of the subject it is perfectly clear that for him the idea of causation is the idea of force, compulsion, constraint, exercised by something powerful over another thing which if not under this constraint would behave differently; this hypothetical different behaviour being called by contrast 'free' behaviour. This constraint of one **[326]** thing in nature by another is the secondary causation of medieval cosmology.[93]

Taken *au pied de la lettre,*[94] Newton is implying that a billiard-ball struck by another and set in motion would have liked to be left in peace; it is reluctant to move, and this reluctance, which is called inertia, has to be overcome by an effort on the part of the ball that strikes it. This effort costs the striker something, namely part of its own momentum, which it pays over to the sluggard ball as an inducement to move. I am not suggesting that this reduction of physics to social psychology is the doctrine Newton set out to teach; all I say is that he expounded it, no doubt as a metaphor beneath which

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[92] The quotation is from the *Principia* [41, p. 412]. I wonder whether Collingwood work through the mathematical arguments of this work.

[93] What exactly does Collingwood mean by Newton's "treatment of the subject"? We shall come back to this. Newton's Second Law of Motion [41, p. 416] is,

> A change in motion is proportional to the motive force impressed and takes place along the straight line in which that force is impressed.

Proposition 7 (Problem 2) of Section 2 of Book 1 of the *Principia* is,

> Let a body revolve in the circumference of a circle; it is required to find the law of the centripetal force tending toward any given point.

Thus some forces, at least, are to be accounted for by laws.

[94] Taken *literally,* that is, and not merely "properly" in the sense of page 32, although the French definition of the phrase is "*Au sens propre, exact du terme*" [45, Lettre, p. 1477].

the truths of physics are concealed.[95]

I have already reminded the reader that in Newton there is no law of universal causation.[96] He not only does not assert that every event must have a cause, he explicitly denies it; and this in two ways.

(i) In the case of a body moving freely (even though its motion be what he calls 'true' motion as distinct from relative motion), there is uncaused motion; for caused means constrained, and free means unconstrained. If a body moves freely from p_1 to p_2 and thence to p_3, the 'event' which is its moving from p_2 to p_3 is in no sense caused by the preceding 'event' of its moving from p_1 to p_2; for it is not caused at all.[97] Newton's doctrine is that any movement which happens according to the laws of motion is an uncaused event; the laws of motion are in fact the laws of free or causeless motion.[98] **[327]**

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[95] Newton is *not* expounding Neoplatonism, but is using its terminology, metaphorically. Likewise, Apollonius [1, p. 6] metaphorically calls a certain figure ὁ κῶνος, that is, a pine-cone, though it is not literally a pine-cone, but is the figure bounded by a circle and by the straight lines that are drawn from the circumference of that circle to some point not in its plane.

[96] See Appendix C, page 111.

[97] Likewise the car accident in the previous chapter that we have no control over is uncaused.

[98] Movement according to Newton's *First* Law of Motion is uncaused; but the Second Law of Motion, as quoted in note 93 (page 83), governs forced motion. In the Author's Preface to the Reader, dated 8 May 1686, Newton says,

> For the basic problem [*lit.* whole difficulty] of philosophy seems to be to discover the forces of nature from the phenomena of motions and then to demonstrate the other phenomena from these forces . . . For many things lead me to have a suspicion that all phenomena may depend on certain forces by which the particles of bodies, by causes not yet known, either are impelled toward one another and cohere in regular figures, or are repelled from one another and recede. Since these forces are unknown, philosophers have hitherto made trial of nature in vain. But I hope that the principles set down here will shed

(ii) He asserts that there is such a thing as relative motion; but, as he puts it, 'relative motion may be generated or altered without any force impressed upon the body'.[99] If, therefore, it were possible to show either that all motion is 'free', that is to say, takes place according to laws having the same logical character as the Newtonian laws of motion; or that all motion is 'relative'; then on Newton's own principles it would follow that no motion is caused, and the cat would be out of the bag. It would have become plain that there is no truth concealed beneath the animistic metaphor; and that 'the idea of causation' is simply a relic of animism foisted upon a science to which it is irrelevant.[100]

> some light either on this mode of philosophizing or some truer one.

Apparently Newton distinguishes between phenomena that can be explained—"demonstrated"—in terms of forces that follow known laws, and phenomena that cannot yet be so explained.

[99] This is the next clause after the one quoted on page 82 from the Scholium on the Definitions. The Scholium continues:

> For the impression of forces solely on other bodies with which a given body has a relation is enough, when the other bodies yield, to produce a change in that relation which constitutes the relative rest or motion of this body.

If I move A away from B, but your eye follows A, it looks as if B has been moved.

[100] One would show not that all motion is relative, but that relative motion cannot be distinguished from absolute motion. And Newton all but says this, in the 8th and 9th paragraphs of the Scholium on the Definitions:

> For it is possible that there is no body truly at rest to which places and motions may be referred . . . true rest cannot be defined on the basis of the position of bodies in relation to one another.

And yet relative *circular* motion *can* be distinguished from absolute circular motion: Newton observes this, in the 13th paragraph of the Scholium on the Definitions, by considering a bucket of water hanging from a long twisted cord.

> The effects distinguishing absolute motion from relative motion are the forces

This is what modern physics has done. Developing the Newtonian doctrine in the simplest and most logical way, it has eliminated the notion of cause altogether.[101] In place of that notion, we get a new and highly complex development of the Newtonian 'laws of motion'. Of the two Newtonian classes of events, (*a*) those that happen according to law[f] (*b*) those that happen as the effects of causes, class (*a*) has expanded to such an extent as to swallow up (*b*). At the same time, the survival of the term 'cause' in certain sciences other than physics, such as medicine, is not a symptom of their 'backwardness', because in them the word 'cause' is not used in the same sense. They are practical sciences, and they accordingly use the word in sense II.[102]

> of receding from the axis of circular motion. For in purely relative circular motion these forces are null, while in true and absolute circular motion they are larger or smaller in proportion to the quantity of motion . . . The truly circular motion of each revolving body is unique, corresponding to a unique endeavor as its proper and sufficient effect . . .

When the water in the whirling bucket shares its motion, the water recedes from the axis, and the surface of the water becomes concave. We know then that the water is turning, and we know this without having to look at the bucket. Still, the turning is not *caused,* but continues in accordance with the First Law of Motion, although that Law is formulated for *linear* motion, not rotational motion. On the other hand, inducing the water to rotate requires force.

[101] Modern physics has not eliminated the notion of *force*; but perhaps by thoroughly mathematicizing it—turning it into a "vector"—physics has stripped force of any sense of causation.

[102] I am not sure that this survival is never due to backwardness, or at least confusion. I consider for example passages from Christof Koch, "A Theory of Consciousness" [33], such as:

> Whatever information you are conscious of is wholly and completely presented

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[f] There is indeed no punctuation here in the copy-text, unless the ensuing '(*b*)' itself be considered as punctuation.

to your mind; it cannot be subdivided. Underlying this unity of consciousness is a multitude of causal interactions among the relevant parts of your brain.

I think Koch confuses the practical task of communicating with "unresponsive" brain-damaged patients (discussed in his article "Measure More, Argue Less" [32]) with the development of a theory of consciousness on the pattern of, say, a theory of gravitation. It would be backward to say that the Earth "causes" the Moon to stay in orbit; the Moon simply orbits the Earth (more precisely, their common center of mass) according to an inverse-square law of gravitation. Koch is not going to have a theory of consciousness like this if he is still thinking in terms of "causal interactions."

XXXIII
CAUSATION IN KANTIAN PHILOSOPHY

The situation in post-Newtonian philosophy has been very different. Kant,[*] whose gigantic effort at a synthesis of all existing philosophies here, unless I am mistaken, overreached itself, swept into one bag the Baconian tradition, with its insistence on causes in sense II, the Cartesian identification of causes (in sense III) with grounds, the Leibnitian[g] law of sufficient reason, and the Humian conception of the cause as an event prior in time to its effect; and, neglecting the one thing in Newton which modern physics has found most valuable, namely the doctrine that what happens according to a law happens without a cause,[103] devised a doctrine which was very soon

[*] What I have here to say about causation in Kant is not meant to cover every sense the word has in Kant's writings, but only the sense it has in the first *Critique* in connexion with natural science.

[103] I might have thought that what was most valuable in Newton was the Second Law of Motion, understood today through symbolism such as $\mathbf{F} = \dot{\mathbf{p}}$ (force is the time-derivative of momentum) or $\mathbf{F} = m \cdot \mathbf{a}$ (force is mass times acceleration). Strictly, as Newton himself expressed the Law (note 93, page 83), it is $\mathbf{J} = \Delta\mathbf{p}$ (*impulse,* or "motive force," is change of momentum). The Law is valuable because force itself—"accelerative force," $\mathbf{F}$—can be understood mathematically, as by the inverse-square law governing gravitation, or by the direct law governing

[g] "Leibnitian" is indeed Collingwood's spelling.

accepted as orthodox. The central points are three.

(*a*) *That every event has a cause,*

(*b*) *That the cause of an event is a previous event,*

(*c*) *That* (*a*) *and* (*b*) *are known to us* a priori.

These are, of course, metaphysical propositions: i.e. taken by themselves they express not propositions but suppositions; to be understood as propositions, they must be understood as prefaced by the metaphysical rubric. I shall comment on (*a*) and (*b*).[104]

(*a*) On this statement I have two questions to ask: what did Kant mean by it and why did he believe it? **[329]**

1. What did he mean by it? First, he meant to traverse the Newtonian distinction between events due to the operation of

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springs. We might say more generally that what is valuable in Newton is the idea that motion can be governed by mathematical laws, regardless of how we speak about cause in this connection. Kepler [31, pp. 888, 932, 933] found laws governing *planetary* motion; Newton found laws governing both this and sublunary motion at the same time. Kepler's writing is full of talk of causes, attempting to explain the mathematical laws that have been found; but the talk is not persuasive. From Kepler's Laws alone, we have no *reason* to say that planetary motion is caused. From Newton's Laws, we do: the cause is gravity, as found in an inverse-square law of force. We may however say that this is not cause as we understand it. We may also say that gravity, being mathematically expressed, is a *formal* cause. This is one of Aristotle's causes that Collingwood does not consider: see Appendix B.

[104] The metaphysical rubric is, "so-and-so presupposes (or presupposed) that . . . ," or, more accurately,

> *in such and such a phase of scientific thought it is (or was) absolutely presupposed that . . . ,*

according to page 55 of the *Essay*. That Collingwood will not comment on point (*c*) may be because it is effectively the metaphysical rubric itself. However, he will discuss others' thoughts on (*c*) in the next chapter.

causes and events due to the operation of laws.[105] Secondly, he meant the word 'cause' to be understood in sense III. His language in the *Critique of Pure Reason* leaves no doubt on this point. He calls the cause an event upon which the effect must follow in conformity with a rule (A 194, B 239). This 'rule' implies a one-one relation.[106]

2. Why did he believe it? Not because it was a commonplace. As I have pointed out, it directly traversed Newton ; and in a general way Kant accepted Newton as his master in physical science. Nor was it derived from either the Leibnitian or the Humian side of his philosophical education. It is not in Leibniz. The Leibnitian Law of Sufficient Reason is not that everything has a cause, it is that everything has a ground. The demonstration that causes, as the word is understood in natural science, are not the same as grounds, is an essential part of that Humian argument to whose acceptance by himself Kant is referring where he speaks of Hume as rousing him from his dogmatic slumber. Nor is it in Wolff, who holds that the cause of an effect is that from which the effect can be logically deduced, i.e. its ground. It is not in Hume, who is clearly following Newton when he says: ''tis a general maxim in philosophy, that whatever *begins to exist*, must have a cause of existence', and asks 'for what reason we pronounce it necessary, that every thing *whose existence has a* **[330]** *beginning* should also have a cause' (*Treatise*, part iii, § iii *ad init.*, § ii *ad fin.*; *Works*, Edinburgh, 1826, vol. i, pp. 110, 109; I have italicized the words that emphasize Hume's agreement

[105] Does Collingwood mean that traversing Newton was Kant's conscious intention?

[106] The meaning of a one-one relation was defined on page 27. On rule in Kant see Appendix D, page 114.

with Newton at the point in which Kant differs from him[107]). Locke takes the same line in the fourth section of his chapter 'Of Power', though with some hesitation: he does not actually deny that every event in nature is an instance of 'power' (causation), but says that 'the Impulse Bodies are observ'd to make one upon another' is at any rate a much clearer case of it than a continuation of the motion thus initiated in the second body, which is 'little more an Action, than the Continuation of the Alteration of its Figure by the same Blow, is an Action'.

The transition from the Newtonian doctrine that every 'change' has a cause (where 'change' means an event not accounted for by the laws of motion), to the Kantian doctrine that every 'event' has a cause, might no doubt be understood as a correction of wording rather than as an alteration of doctrine: for if that which causes be called, as it was by Newton, a force, and if inertia be called a force (*vis inertiae*), it follows that an event which can be accounted for by the First Law of Motion, such as the passing of a certain point at a certain time by a body moving with uniform velocity in a straight line, where the continuance of the movement is ascribed to inertia, is being accounted for by a cause, the *vis inertiae*: and by similar argument it can be shown that every event in nature was implicitly regarded by Newton as **[331]** having a cause, although Newton himself did not recognize the implication.[108] And this, I imagine, is the reason why Kant's statement, at first sight revolutionary, was so readily adopted by his con-

[107]As italicized in [27, p. 78], the passages are "'Tis a general maxim in philosophy, that *whatever begins to exist, must have a cause of existence*" and "For what reason we pronounce it *necessary*, that every thing whose existence has a beginning shou'd also have a cause?"

[108]Indeed, Newton seems to deny it in his account of "inherent force" or force of inertia, quoted in note 96, page 84.

temporaries and successors, and has excited so little remark among commentators and historians.

For it is a fact that histories of philosophy and commentaries on Kant, so far as I have consulted them, throw no light on the question why Kant abandoned the Newtonian doctrine on this point and substituted the statement I am now discussing.[109] Whether he derived this statement from the works of any predecessor, and if so who the predecessor was, I do not know.

(*b*) The second Kantian statement, that the cause of an event is a previous event, is Humian: for Hume's discussion is wholly based on the presupposition that a cause and its effect are two 'objects', constantly conjoined by way of temporal succession. Now the cause of an event can be a previous event only when 'cause' is used in sense II. If 'cause' is used in sense III, as it is in Kant's first statement, there can be (as I have shown) no difference of time between the cause and its effects: for sense III implies a one-one relation between cause and effect, and events between which there is a one-one relation must be simultaneous (above, pp. 314–15 [our page 69]).

The two suppositions which together constitute Kant's definition of the term 'cause' are not consupponible: or at any rate not consupponible except under a pressure which must produce a somewhat [**332**] violent strain in the resulting structure. For in these two statements the word 'cause' is used in two different senses. In (a) it is used in sense II; in (b) it is used in sense III.[110] The combination of the two is an attempt at philosophical syncretism; an unsuccessful attempt, because they are not propositions about the same thing. The relevance

[109] The nearest I have found in Newton's *Principia* to an explicit statement of the "Newtonian doctrine" is the passage of the Preface quoted in note 98, page 84.

[110] The numbers II and III should be interchanged.

of each to the other is an illusory relevance, a merely verbal relevance which is not a real relevance because they use the word 'cause' in two different senses.

It does not follow that Kant was mistaken in thinking both statements to be true. He was trying to state what people (himself included) meant when they spoke of causes. They meant to express a certain absolute presupposition which they habitually made in the course of their thinking about nature: the presupposition which is called the idea of causation.[111] This presupposition was itself a constellation of presuppositions; and among the elements that went to compose it, if Kant is right, were these: that a cause and its effect are related by a necessary connexion, and that a cause and its effect are related by way of temporal sequence. The logical incompatibility of these two suppositions does not prove that they were not concurrently made; it only proves that, if they were concurrently made, the structure of the constellation that included them both was subject to severe strain, and that the entire fabric of the science based upon them was in a dangerously unstable condition.

The general acceptance of Kant's analysis in the **[333]** nineteenth century is strong, though of course not necessarily conclusive, evidence that it was correct. If so, it follows that

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[111] Absolute presuppositions are made *habitually.* On page 15, I quoted Collingwood on habit from earlier in the *Essay*:

> If people became aware that in certain contexts they were in the habit of treating this or that presupposition as an absolute one, they would be unable to go on doing it.

In note 61, page 62, I quoted him from *Religion and Philosophy* on "the possibility of a [dropped] ball's thus changing its habits" by an act of will. On page 80, Collingwood refers to our "habit" of using the anthropomorphic terms "cause" and "compulsion."

during what I will call the Kantian period, roughly speaking from Kant to Einstein, the fabric of natural science, spectacular though its progress was, rested on an insecure foundation. Whether the hatred of metaphysics fashionable among natural scientists in this period was due to a sense of this insecurity (diseased organisms often hate the remedy) I shall not ask. What I shall do is to say wherein this insecurity consisted, so far as it arose out of the idea of causation.

It consisted in two metaphysical dilemmas, which I shall call the anthropocentric dilemma and the anthropomorphic dilemma.[112] The first of these was brought to light by the philosophical movement of the late nineteenth century, and its existence is consequently a notorious fact. The second lies deeper in the structure of nineteenth-century thought, and though often suspected it has not been generally recognized.

1. The *anthropocentric dilemma.* The alternatives are:

1 (*a*). The natural scientist is trying to construct an anthropocentric science of nature, a practical science of the Baconian or experimental type. His materials are such facts as this, that on a certain occasion a certain person has obtained certain results by manipulating natural things in a certain way. Causes in such a science are causes in sense II. To know nature as the natural scientist tries to know nature means [**334**] knowing how to bend nature to one's purposes. He does not wish to know what nature is in itself. He wishes to know what he can do with it. His attitude towards nature is primarily a practical attitude; it is only theoretical in the secondary sense that it entails knowing what results his attempts at practice have yielded. Whatever superstructure is built on this strictly

[112] The anthropocentric and anthropomorphic *ideas* were the basis of sense II of cause (page 64 and note 64).

historical knowledge is a superstructure of more or less well-founded conjecture as to what results may be expected on more or less similar occasions in the future. Any attempt to replace this conjectural superstructure by a superstructure of known or proved certainties involves a surreptitious transition from 1(a) to 1(b).[h]

1(b). The natural scientist is trying to construct a science of nature as it is in itself, a theoretical science of nature. To such a theoretical science experimental results may afford clues, but no more. The ideal aimed at is a knowledge of what the natural world is in itself as distinct from a knowledge of what man has done (and therefore may hope to do) by manipulating the natural world.

The orthodox or accepted view of natural science during the Kantian period was 1(b). But the issue as between the two alternatives was not clearly envisaged; and in the latter part of the century 1(b) tended to lose its hold on men's minds, and to be replaced by 1(a).

2. The anthropomorphic dilemma. The question here is whether the natural scientist in his detailed study of the world of nature presupposes that this **[335]** world is animated by something like human mind, or at any rate human psyche, or whether he makes no such presupposition. It is not a pseudo-metaphysical question. It is not a question as to whether the world of nature is in fact thus animated or not. It is a question as to the presuppositions which in fact underlie the natural scientist's approach to that world. The alternatives are:

2(a). The natural scientist is trying to construct a science

[h] At the head of this paragraph, there is a space in "1 (a)," perhaps by the typesetter's mistake; for, now in "from 1(a) to 1(b)," and in the following instances of such headings, there is no space.

of nature in terms of analogies drawn from the conscious life of man. It is only through such analogies that nature becomes intelligible to man; a science of nature which renounced their use would accordingly be no science at all. When Darwin in the *Origin of Species* announces 'the highly important fact that an organ originally constructed for one purpose may be converted into one for a widely different purpose' (Ch. VI), his use of frankly teleological language need bring no blush to the cheek of his disciples. Thus described, the facts of animal anatomy become intelligible. Described without appeal to the analogy with the human activities of constructing and adapting, means and ends, they would be unintelligible.

2(*b*). The natural scientist, in so far as he uses these analogies, is obscuring his own thought by saying what he does not mean. A well-devised vocabulary for use in natural science would avoid them. The natural scientist does not really believe that nature devises and adapts, invents means to bring about her ends; he thinks that this is a purely human **[336]** type of behaviour, and that his business is to describe everything he can in terms of physical and chemical processes in which it has no place.

The orthodox view of natural science during the Kantian period was 2(*b*). But once more the issue was not clearly defined. The natural science of the period regarded itself as a non-anthropomorphic natural science, and in attacking anthropomorphism pinned its faith to causation in sense III as its favourite weapon. It failed to realize that within this sense of the word there lay concealed an element of anthropomorphism, concealed because to discover it would have required the exercise of metaphysical analysis, and metaphysics was barred: and that the so-called 'materialism' which was the favourite metaphysical doctrine of these anti-metaphysicians was in consequence only in name a repudiation of anthropomorphism; really it was anthropomorphic at the core.

The war-cries 'Back to Kant' and 'No more metaphysics' were the mottoes of a reactionary and obscurantist anti-metaphysics whose purpose was to prevent these two problems from being faced and solved. Even where those war-cries were not heard the same purpose has been visibly at work. While physicists have been escaping from the *damnosa haereditas* of the Kantian confusion by the heroic measure of reconstructing their own science in such a way that the idea of causation no longer figures in it at all, philosophers, especially those of the reactionary and obscurantist schools which put forward the [**337**] programmes of 'realism' and 'logical positivism', show their desire to perpetuate whatever confusions there were in nineteenth-century science by reiterating the contradiction that vitiated the nineteenth-century idea of causation.

XXXIV
EPILOGUE

WHAT is our present situation?

The obscurantist movement mentioned in the preceding paragraph is not yet spent. Its hall-mark is the acceptance of the two incompatibles quoted from Kant as (*a*) and (*b*) at the beginning of the last chapter: that every event has a cause, and that the cause of an event is a previous event. I will give a few examples.

Cook Wilson (*Statement and Inference*, 1926: a posthumous publication containing professorial lectures delivered in Oxford over many years from a chair occupied since 1889; vol. ii, pp. 516–17) promises that 'causality will ultimately be found to mean that the events belonging to an object, or a system of objects, have a definite order, that is, therefore, a necessary order . . . *we* apprehend this necessity as belonging to the order of events'. An order here means a temporal order.[113]

Professor H. A. Prichard, in a book about Kant which does not by any means profess a slavish adherence to Kant's doctrines (*Kant's Theory of Knowledge* (1909), p. 300), nevertheless agrees with Kant that 'it is of the very nature of a physical event to be an element in a process of change . . . this process being through and through necessary in the sense that any event . . . is the outcome of certain preceding events'.

[113]The italicization of occurrences of "we" in quotations is Collingwood's, as he explains below.

[339] He differs from Kant only on the point which at the beginning of the last chapter I labelled (*c*). Where Kant says that the principle of causation is a matter of synthetic *a priori* knowledge, and where Cook Wilson says that we 'apprehend' it 'much as we do the events, though we do not apprehend it in the way of experiencing it' (loc. cit.), Prichard says that it is what Kant called analytic ('to attain this insight, *we* have only to reflect upon what we really mean by a physical event', loc. cit.) and observes that this is exactly the view which Kant rejects as 'dogmatic'. It is the less surprising that certain other writers have doubted whether this self-contradictory principle is in reality a matter of knowledge at all.

Mr. J. M. Keynes (*A Treatise on Probability* (1929), p. 263) is among these. '*We* believe', says he, 'that every object in time has a "necessary" connection with some set of objects at a previous time.' But he mentions this belief with a conspicuous absence of fervour. He will not admit that we 'know' the Law of Causation, either on evidence, or as an analytic proposition, or as a 'necessity' which we 'apprehend'. All he will admit is that '*we* believe' it.

Mr. John Wisdom (*Problems of Mind and Matter* (1934), pp. 110 seqq.) is another believer. He says that there is something called 'the Law of Causation', to the effect that 'everything which happens is due to something else which caused it to happen', or as he alternatively puts it, 'due to something else which happened before'. He seems aware that Laodiceans like Mr. Keynes exist;[114] but he shouts them down, **[340]** exclaim-

[114] The Laodiceans are "lukewarm," in the Revelation of St. John the Divine, Chapter 3 (cited in [50]):

> 14 And unto the angel of the church of the Laodiceans write; These things saith the Amen, the faithful and true witness, the beginning of the creation of God;

ing that we all know there is such a law, though he admits that it cannot be demonstrated or otherwise justified. But, he protests, demonstration is unnecessary. 'I do not know *how* we know that things are as they are because they were as they were. But *we* do know it.'

According to Mr. A. J. Ayer (*Language Truth and Logic* (1936), p. 57) '*we* adopt' the view 'that every assertion of a particular causal connection involves the assertion of a causal law, and that every general proposition of the form "C causes E" is equivalent to a proposition of the form "whenever C, then E", where the symbol "whenever" must be taken to refer, not to a finite number of actual instances of C, but to the infinite number of possible instances'. Here the one-one relation is plain; and his subsequent discussion makes it equally plain that C and E stand for events happening in that order.

All these writers, it will be seen, attach themselves to some group or society of persons to whom they refer as 'we'. I have ventured to italicize the word in my quotations. What is this group or society? It is the group or society of persons who accept the Kantian definition of the term 'cause'. They are not, and do not include, contemporary natural scientists: for these, or at any rate those among them who are physicists, have abandoned the term. Nor do they include such philosophers as have, like Whitehead and Russell, understood and accepted the work which these physicists are doing.

They are a group of neo-Kantians whose reverence **[341]** for the master has induced them to accept not indeed all his

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15 I know thy works, that thou art neither cold nor hot: I would thou wert cold or hot.

16 So then because thou art lukewarm, and neither cold nor hot, I will spue thee out of my mouth.

doctrines but this particular doctrine. I say this because, the doctrine being a self-contradictory one, it can hardly have commended itself to them by its inherent reasonableness; nor can they have had for accepting it the same reason which I suppose Kant to have had, namely the fact that, self-contradictory or not, it was actually presupposed by contemporary physicists. It has somehow got itself fixed in their minds; presumably from their study of Kant. To quote the bitter words of Earl Russell: 'The law of causality, I believe, like much that passes muster among philosophers, is a relic of a bygone age, surviving, like the monarchy, only because it is erroneously supposed to do no harm' (op. cit., p. 180).

The harm it does, or the harm of which it is symptomatic, is that they are a group of reactionary thinkers, wedded to the errors of the past, enemies of modern science, and obstructors of all progress whether in metaphysics or in science, natural or historical.

The sciences, both natural and historical, are at present in a flourishing condition. By means of heroic efforts they have succeeded in disentangling themselves from the fallacies of method that vitiated much of their apparent progress in the nineteenth century. Their prospects of advance along the lines upon which they have now established themselves are incalculable. Internally, they have nothing to fear. The only dangers that now beset them are external. These external dangers reduce themselves [**342**] on analysis to one: the irrationalist movement of which something was said in Chapter XIII.

This movement may impede the advancement of science (and the advancement of science and the existence of science, I repeat, are not two things but one) in two different ways. Politically, by creating in the body politic a demand that scientific thinking should be put down by force. There are places where this is already happening. Academically, by creating in the specialized organs through which society endeavours to further science and learning a feeling of hostility to that furtherance. This feeling of hostility to science as such may be 'rationalized' through an obscurantist philosophy which by sophistical arguments pretends to prove that the advances which are actually being made are in fact no advances. Sophistical, because reactionary: based on the assumption that the superseded views are true, and thence proceeding to argue that the views which have superseded them must be false because they do not agree with the views they have superseded. The partisans of such an obscurantist philosophy are traitors to their academic calling. Within the body of persons ostensibly devoted to the advancement of science and learning they are working, unconsciously perhaps but still working, to obstruct that advancement and weaken the resistance with which that body is bound in honour to confront the onslaughts of irrationalism.[115]

I attribute no such conscious motives to the writers I have quoted. Fighting on the side of irrationalism they certainly are; but not, I will believe, from malice [**343**] towards reason. What has led them blindly into the ranks of that army has been a misunderstanding as to the nature of the issues they have discussed. These issues are metaphysical. If so many philosophers have turned traitor to their calling, it is because they have failed to distinguish metaphysics from pseudo-metaphysics. The conversion of metaphysical questions into pseudo-metaphysical questions, as I explained in Chapter VIII, necessarily turns metaphysicians into anti-metaphysicians of the reactionary type. Since metaphysics is an indispensable

[115]Such antagonism may be found in particle physics today, as suggested in note 77, page 73.

condition of science an enemy to metaphysics is an enemy to science, and a reactionary anti-metaphysician is an enemy to whatever in science is progressive. Trying with a clumsy hand to put back the clock of scientific progress, he stops it.

This is my reason for offering to the public what might seem essentially an academic essay, suitable only for readers who are already, like myself, committed to an interest in metaphysics. The fate of European science and European civilization is at stake. The gravity of the peril lies especially in the fact that so few recognize any peril to exist. When Rome was in danger, it was the cackling of the sacred geese that saved the Capitol.[116] I am only a professorial goose, consecrated with a cap and gown and fed at a college table; but cackling is my job, and cackle I will.

[116] See *Wikipedia*, "Marcus Manlius." The incident is recounted in Plutarch's life of Camillus [44, p. 171].

Appendix

A. Cause in the *Ancren Riwle*

This continues footnote 16 (p. 36). In the *OED,* the first quotation illustrating the third definition of *cause* is from the *Ancren Riwle,* dated before 1225 [38, p. 320]:

> Cause is hwi þu hit dudest, oðer hulpe þerto, oðer þuruh hwon hit bigon // *Cause is why thou didst it, or helped to do it, or through what means it began.*

Set in context, the quotation provides an instance of thinking, or at least opinionating, on the question of what causes men to abuse women. Collingwood will go on to argue that the answer to such a question properly depends on who is giving the answer. The *Ancren Riwle* is a rule, apparently written by a man, for nuns, that is, "anchoresses";[i] and the quotation is from Part V (of eight), "Of Schrifte // *Of Confession*", which begins [38, p. 298]:

> Of two þinges nimeð ġeme,[ii] of schrifte, iðe beginnunge. Þet forme þing, of hwuche mihte hit beo. Þet oðer þing, hwuch hit schulle beon. Þis beoð nu ase two limes; and eiðer is to-

[i] The Greek origin of "anchorite" (and hence "anchoress") is ἀναχωρητής, "one who retires from the world," which is ultimately from ἀνά and χῶρος "space" [48]. In particular, the digraph CH in "anchoress" is etymologically correct. It is *incorrect* in "anchor," which ultimately derives from ἄνκυρα, which does mean anchor, but is also the Greek name of the city of Ankara.

[ii] Following the practice of [37], I use "ġ" in place of the "insular g" (ancestor of the letter yogh) in the text.

dealed; þe uorme[i] o six stucchenes;[ii] þe oðer o sixtene. // *Concerning confession. To begin, take notice of two things: first, of what efficacy it is; secondly, of what kind it should be. These are two branches; and each of them is divided: the former into six parts; the other into sixteen.*

The second of the two branches begins as follows, the enumeration being added by me [38, p. 302]:

> Loke we nu ġeorneliche hwuch schrift schule beon þet bereð swuch strencðe; &[iii] for to scheawen hit bet dele we nu þis lim o sixtene stucchenes. ¶ Schrift schal beon (1) wreiful, (2) bitter, mid seoruwe, (3) ihol, (4) naked, (5) ofte imaked, (6) hihful, (7) edmod, (8) scheomeful, (9) dredful, & (10) hopeful, (11) wis, (12) soð & (13) willes; (14) owune & (15) studeuest; (16) biðouht biuoren longe. // *Let us now consider attentively what sort of confession that must be which produceth such good effects; and to shew it better, divide we now this part into sixteen particulars. ¶ Confession shall be (1) accusatory, (2) bitter and sorrowful, (3) full, (4) candid, (5) frequent, (6) speedy, (7) humble, (8) with shame, (9) anxious, (10) hopeful, (11) prudent, (12) true, (13) voluntary, (14) spontaneous, (15) steadfast, and (16) premeditated.*

The sixteen particulars are considered in turn, with examples. Concerning candidness, or "nakedness," we are told,

> Me Sire, þeo wummon seið, Ich habbe iheued leofmon; oðer, Ich habbe ibeon fol of me suluen. Þis nis nout naked schrift.

[i] The editor and translator observes in his introduction, "*U* and *v* are used indiscriminately for each other, and for *f*."

[ii] I use a semicolon for what in the text looks like a colon whose *upper* dot has been given a rising tail.

[iii] The symbol with the meaning of an ampersand in the text is in form

> Ne biclute þu hi nowiht. Do awei þe totages, þet beoð þe circumstances. Vnwrih þe & seie, Sire, Godes ore & tin! Ich am a ful stod mere; a stinckinde hore. // *"Sir," saith the woman, "I have had a lover;" or, "I have been foolish concerning myself." This is not plain confession. Put no cloak over it. Take away the accessories, that is, the circumstances. Uncover thyself and say, "Sir, the mercy of God, and thine! I am a foul stud mare: a stinking whore."*

On the contrary, calling oneself a "stud mare" or "stinking whore" is not plain confession, but hyperbole. In any case, a bit later, still on the subject of nakedness, we have the following (again the enumeration is mine):

> Abuten sunne liggeð six þinges þet hit helieð; o Latin, circumstances; on Englisch, heo muwen beon ihoten totagges: (1) persone, (2) stude, (3) time, (4) manere, (5) tale, (6) cause. // *There lieth about sin six things which conceal it; in Latin, circumstances; in English, they may be called adjuncts: (1) person, (2) place, (3) time, (4) manner, (5) number, (6) cause.*

Concerning the first adjunct, we are told something of what distinguishes women from men (and here I do not bother to type up the original, only the translation):

> *Person—she that committed the sin, or with whom it was committed. Lay it open, and say, "Sir, I am a woman, and ought rightly to have been more modest than to speak as I have spoken, or to do as I have done; and therefore my sin is greater than if a man had done it, for it became me worse . . . Sir, it was with such a man;" and then name him—"A monk, a priest, or clerk, and of such an order, a married man, an innocent creature, a woman, as I am."*

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an italic *t* with a curl flowing left, and then downwards and back, from

So it continues through the other adjuncts. At the sixth, we have the *OED* quotation with "cause," and a sample confession about cause:

> *"Sir, I did it for pleasure, and for guilty love, and for gain, through fear, through flattery. Sir, I did it for evil, though no evil came of it. Sir, my light answer, or my light behaviour enticed him toward me. Sir, of this word came another; of this action, anger and evil words. Sir, the reason why the evil still continues is this: my heart was so weak."*

Here then is the teaching that women can *cause* men to abuse them (and themselves). Two questions to be considered are: (1) Is this teaching true? (2) Can the spread of this teaching among men *itself* cause men to abuse women?

its upper tip, as if to suggest a preceding *e*.

B. Cause in Aristotle

Collingwood introduces *causa ut* and *causa quod* on page 37. He calls them final and efficient cause, respectively, but we might spell out their Latin names as "cause for the sake of which" and "cause that." They are two of Aristotle's causes, in the *Physics,* Book B, Chapter 3, 194$^{\mathrm{b}}$ 23–35 [2, 3]:

(1) *τὸ ἐξ οὗ γίγνεταί τι ἐνυπάρχοντος* that from which, as a constituent, something is generated;
(2) *τὸ εἶδος καὶ τὸ παράδειγμα* the form or the pattern;
(3) *ἡ ἀρχὴ τῆς μεταβολῆς ἡ πρώτη ἢ τῆς ἠρεμήσεως* that from which change or coming to rest first begins;
(4) *τὸ τέλος· τοῦτο δ᾽ ἐστὶν τὸ οὗ ἕνεκα* the end, and this is the final cause [that for the sake of which].

These are abbreviated as (1) material, (2) formal, (3) efficient, and (4) final cause. In note 103, page 88, I consider Newton's Law of Gravity as a *formal* cause.

In Collingwood's Latin, the Latin adverb or conjunction *ut* or *utī* is an adverb or conjunction with various translations into English, the relevant one at present being "in order that" [39]. In addition to being the neuter relative pronoun, *quod* is a conjunction, with translations like "because." Thus it corresponds to the Greek *ὅτι* and the English "that," as is noted in the *OED* article on "that" *qua* conjunction. An illustration is from *Isaiah* 63:5, in the King James Version of 1611:

> I wondered that there was none to uphold.

I note how the Oxford World Classics edition of the KJV takes up Collingwood's theme of history in its preface [6]:

Bibles are, by their very nature, partisan. As that plural suggests, there are many bibles, even in English, and each is the product of a particular interest group—whether religious, commercial, or, increasingly nowadays, both. This edition is no exception . . .

. . . Though this edition, unlike almost every other on the market, is not sponsered by a particular religious group, the mere fact that we have chosen to use a translation that is, in places, more than four hundred years old, indicates an initial historical bias to our approach. Bias is not confined to the choice of text . . .

C. Motion in Newton

This is a remark on Collingwood's comment on page 84 at note 96, "in Newton there is no law of universal causation." Here is Newton's First Law of Motion [41, p. 416]:

> *Every body perseveres in its state of being at rest or of moving uniformly straight forward, except insofar as it is compelled to change its state by forces impressed.*
>
> Projectiles persevere in their motions, except insofar as they are retarded by the resistance of the air and are impelled downward by the force of gravity. A spinning hoop, which has parts that by their cohesion continually draw one another back from rectilinear motions, does not cease to rotate, except insofar as it is retarded by the air. And larger bodies—planets and comets—preserve for a longer time both their progressive and their circular motions, which take place in spaces having less resistance.

Thus motion need have no *external* cause. And yet motion may continue because of a body's own "perseverence": might this motion not be considered as "self-causing" in the sense of Chapter XXX, page 40? Perhaps not. Newton's Definition 3 is,

> *Inherent force of matter is the power of resisting by which every body, so far as it is able, perseveres in its state either of resting or of moving uniformly straight forward.*
>
> . . . inherent force may also be called by the very significant name of force of inertia. Moreover, a body exerts this force only during a change of its state, caused by another force

> impressed on it, and this exercise of force is, depending on the viewpoint, both resistance and impetus . . .

Here a "state" may be a state of rest or of uniform motion. So no exertion of force—no *cause*—is required in either case. See page 91 and note 108.

Collingwood says he has "already reminded the reader that in Newton there is no law of universal causation." Probably he is referring to his Chapter VI, "Metaphysics as an Historical Science," where he says,

> I will go back to the example of causation, and remind the reader of three familiar facts.
>
> (*a*) In Newtonian physics it is presupposed that some events (in the physical world; a qualification which hereinafter the reader will please understand when required) have causes and others not. Events not due to the operation of causes are supposed to be due to the operation of laws. Thus if a body moves freely along a straight line p_1, p_2, p_3, p_4 . . . its passing the point p_3 at a certain time, calculable in advance from previous observation of its velocity, is an event which is not according to Newton the effect of any cause whatever. It is an event which takes place not owing to a cause, but according to a law. But if it had changed its direction at p_3, having collided there with another body, that change of direction would have been an event taking place owing to the action of a cause . . .

Collingwood will make similar remarks on page 84. Again, the body's continued motion is indeed by a law, the First Law. A change in direction is due to the action of an external "cause," that is, a force; but the action is still in accordance with a law, namely the Second Law of Motion, quoted in note 93, page 83. It is not clear how much (if at all) Newton differed from the Moderns, by Collingwood's account, still in Chapter VI:

> (c) In modern physics the notion of cause has disappeared. Nothing happens owing to causes; everything happens according to laws. Cases of impact, for example, are no longer regarded as cases in which the Laws of Motion are rendered inoperative by interference with one body on the part of another; they are regarded as cases of 'free' motion (that is, motion not interfered with) under peculiar geometrical conditions, a line of some kind being substituted for the straight line of Newton's First Law.

Kepler showed that the planets moved along the lines called ellipses, which (if circles be counted among them) are themselves one of the three kinds of conic sections. These had been discovered by the Greeks two millenia before, perhaps by Menaechmus, probably for the sake of finding two mean proportionals between two given lengths. Newton shows that the motion of the planets along ellipses can be accounted for by an "inverse square" law of force. Collingwood makes it sound as if Newton was interested only in straight lines. Thus I wonder whether Collingwood has worked through Newton's mathematics.

D. Rule in Kant

This continues note 106, page 90. The Guyer–Wood edition [30, p. 757] of Kant provides a glossary of "philosophically significant terms," but "rule" is not one of these: presumably it translates *regel* [47], which would seem, like "rule," to be a descendent of the Latin *regula.* The original meaning of this is one meaning of our "ruler": a straightedge. One can then imagine a sequence of events, lined up as if by a ruler, each being the cause of which the next is the effect. The sequence is not in space, but in time.

The passage cited by Collingwood does indeed talk about sequences. It is in

- **I. Transcendental doctrine of elements**
- **Second Part.** Transcendental logic
- **Division one.** Transcendental analytic
- Book II. Analytic of principles
- Chapter II. System of all principles of pure understanding
- Section III. Systematic representation of all synthetic principles of pure understanding
- 3. Analogies of experience
- B. Second analogy: principle of temporal succession according to the law of causality.

At the head of the passage in the B edition is the assertion, typographically centered [30, p. 304],

> All alterations occur in accordance with the law of the connection of cause and effect.

This is followed by "**Proof,**" also centered. Collingwood refers to the fifth paragraph after this in the B edition; the paragraph is,

> In our case I must therefore derive the **subjective sequence** of apprehension from the **objective sequence** of appearances, for otherwise, the former would be entirely undetermined and no appearance would be distinguished from any other. The former alone proves nothing about the connection of the manifold in the object, because it is entirely arbitrary. This connection must therefore consist in the order of the manifold of appearance in accordance with which the apprehension of one thing (that which happens) follows that of the other (which precedes) **in accordance with a rule.** Only thereby can I be justified in saying of the appearance itself, and not merely of my apprehension, that a sequence is to be encountered in it, which is to say as much as that I cannot arrange the apprehension otherwise than exactly in this sequence.

Briefly, it seems, when we see a connection, it must be according to rule. Collingwood takes the connection for a "one-one relation."

Newton's First Law of Motion (note 96, page 84) is about motion in a straight line, as if along a ruler; but it is not about a "sequence of appearances":

1. It is about not *appearances,* but an idealized situation that never actually happens.
2. It is not about a *sequence,* for the points of a straight line do not compose a sequence. There is no one point that *follows* a given point on a line. According to the glossary mentioned above, "sequence" is Kant's *Folge,* which seems to be cognate with our "follow."

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