

Philosophy of the Human Person

Lecture #32

Peirce on the Doctrine of Necessity

two lines of attack on the claim that science shows us that the every event is completely determined by law

(1) quantum mechanics (see appendix to this lecture)

(2) Peirce's argument

Peirce

his general view—not every event is completely determined by law

his argument is against the conditional, “if science is right, then determinism is true”

or, more precisely, it is an attempt to refute all the arguments for the conditional

his more general view (not defended here) is a defense of two alternatives to law

libertarianism—some events are caused by choice

tychism—some events are caused by chance

evidence of either is inconsistent with the determinism (“the doctrine of necessity”)

this essay

historical review of the question

the ancient alternatives

Democritus—first advocate of the Doctrine of Necessity
generalization from mechanics

Aristotle—three alternative kinds of cause

external compulsion (efficient cause)

internal nature (final cause)

absolute chance

the modern rise of the Doctrine of Necessity

the successes of mechanics

from Newton's *Principia* to the discovery of Neptune

challenges to the obstacles

miracles—historical criticism (“the study of the value of Biblical books as accounts of actual facts”¹)

¹ Donald Attwater, *A Catholic Dictionary*, 3d ed., p. 129.

free will—associationalism, the theory of motives
the outline of the essay

thesis: all arguments (science-based or otherwise) for the doctrine of necessity are bad arguments

the doctrine of necessity (DN)—the state of things (i.e., the positions & velocities of all particles) existing at any time completely determine the state of things at any later time

significance—incompatibility with free will

symbolically — (DN \uparrow FW) or, equivalently, (DN \square \sim FW)

method—refutation of the most important arguments for the doctrine, specifically

i. determinism is not a presupposition of science

ii. no scientific experiments show us that determinism is true

iii. there are no *a priori* arguments for the truth of determinism

i.e., no logical or conceptual arguments, whose soundness does not even depend on experience

what we will look at here—his attacks on science-based arguments for determinism

Peirce's more general thesis (stated here; defended elsewhere)

tychism—there is an element of chance in nature

i.e., natural events sometimes show a spontaneous deviation from “laws of nature”

Outline of Peirce's First Refutation

first, a statement of the argument Peirce intends to refute

key premise—the Doctrine of Necessity is a presupposition (or postulate) of scientific reasoning

definition of a postulate—“the formation of a material fact which we are not entitled to presume as a premiss, but the truth of which is requisite to the validity of an inference”

one way to put the argument

Incompatibility Thesis	if the Doctrine of Necessity is true, there is no freedom of the will	1. $DN \sqsupset \sim FW$
Presupposition of Science Thesis	if the Doctrine of Necessity weren't true, scientific reasoning would not be valid	2. $\sim DN \sqsupset \sim SR$
Validity of Science Thesis	scientific reasoning is valid	3. SR
		\sqsupset 4. DN
		\sqsupset 5. $\sim FW$

another way to put the same argument

if the doctrine of necessity weren't true, the conclusion of a piece of scientific reasoning would not follow from the evidence scientists adduce
 $[\sim DN \sqsupset \sim (Ev \sqsupset Concl)]$

or, the evidence alone does not imply the conclusion $[\sim (Ev \sqsupset Concl)]$

but it is the case that the evidence plus the Doctrine of Necessity would
 $[(Ev \sqsupset DN) \sqsupset Concl]$

Peirce's first refutation of the first argument

(1) if the Incompatibility Thesis [IT] and the Presupposition Thesis [PT] are both true, then Libertarians (those who accept the freedom of the will) would have to claim that there is no argument for the truth of, say, the Law of the Lever

but (2) there is no reason to believe that Libertarians should have any trouble with arguments for the Law of the Lever

so, (3) the theses cannot both be true

either the DN and FW are compatible $[\sim IT]$

or the DN is not a presupposition of science $[\sim PT]$

Peirce's second refutation of the first argument

(1) All scientific reasoning is merely probable

(2) No merely probable reasoning requires more than approximate truth (i.e., propositions that tell us what is most frequently the case)

So, (3) So, No scientific reasoning requires more than approximate truth

(4) Requiring the Doctrine of Necessity is requiring precise & absolute truth

So, (5) So, Requiring the Doctrine of Necessity is requiring more than approximate truth

So, (6) So, No scientific reasoning requires the Doctrine of Necessity

Outline of Peirce's Second Refutation

the second argument for the Doctrine of Necessity—the Doctrine of Necessity is shown by observation

Peirce's first refutation of this argument

(1) If the Doctrine of Necessity is known from scientific observation, then certain continuous quantities have been measured exactly [$K_{dn} \square M_a$]

But (2) If certain continuous quantities have been measured exactly, it must be true that those quantities can be measured exactly [$M_a \square M_p$]

And (3) No continuous quantities can be measured exactly [$\sim M_p$]

So, (4) the Doctrine of Necessity is not known from scientific observation [$\sim K_{dn}$]

Peirce's second refutation of this argument

observations support an element of regularity

observations don't support exactitude, indeed they actually oppose it

what is the cause of this inexactitude in actual measurement?

a common explanation—human error

this surely explains some of the inexactitude, but what reason is there to think that it explains it all?

until one can show that human error explains it all, one cannot claim that observation shows the DN to be true

Peirce's explanation—at least part of the inexactitude is due to chance

objection

(1) if there were chance events, there would sometimes be spectacular results of this effect [$C \square SR$]

(2) there are no such spectacular results [$\sim SR$]

So, (3) there are no chance events [$\sim C$]

reply—both premises are doubtful

there are lots of events that might be the sought after spectacular results [SR might be true]

e.g., natural disasters or technological accidents

the particles of gases move about as if by chance & there are no spectacular results [in this realm, physicists say $C \ \& \ \sim SR$, which is inconsistent with $C \square SR$]