Method of classification and its usage in identification and demarcation of different kinds of determinisms

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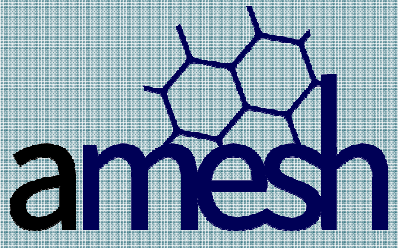

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How to Classify Determinisms (A Report)

Classification is an analytical method. It is without doubt useful in many empirical sciences…

How we can used it in philosophy?

Is it useful in philosophy at all?

In philosophy - the method of classification could be applied and useful in a conceptual analysis.

Process of classification can

- make better understanding of philosophical concepts
- alert to their imprecise meanings of these concepts and their inadequate using and make able their elucidation.
- push toward refining some philosophical theories.

Two initial problems we are facing with:

- 1. What is classification at all?
- 2. Philosophical concepts are not always used unambiguously.

The first initial problem: What classification is?

Bailey, Kenneth D. *Typologies and Taxonomies, An Introduction to Classification Techniques* (Quantitative Applications in the Social Sciences), 1994:

"Classification is the general process of grouping entities by similarity;"

"classification is **both a process** and **an end result**."

Hull, D. L. Taxonomy. in: *Rutledge Encyclopedia of Philosophy*, Version 1.0, London: Routledge, 1998:

"Any set of entities can be classified in indefinitely many ways. Books can be classified according to author, title, subject matter, and so on"

"**The ultimate goal for scientific classifications** is to group entities so that these classes function in, or facilitate the formation of, **scientific laws**."

Classification / Typology / Taxonomy / Systematics?

- Bailey, 1994, p.4: „Typology is another term for a classification...“
- Adams, 1991, 296-7: “Some participants in the Typological Debate prefer to talk about classification (Linton 1936: 382-400; Rouse 1960; Dunnell 1986), some about typology (Krieger 1944; 1960; J. A. Ford 1954b; Kluckhohn 1960), and some about taxonomy (Brew 1946: 44-66), **but to a large extent these terms have been used interchangeably**.”

The second initial problem: What determinism is?

Determinism - etymology

Determinare (from de- "off" + *terminare* "to mark the end or boundary“)

Lewis & Short Dictionary:

to enclose within boundaries, to bound; to limit, prescribe, determine, to fix, settle, determine;

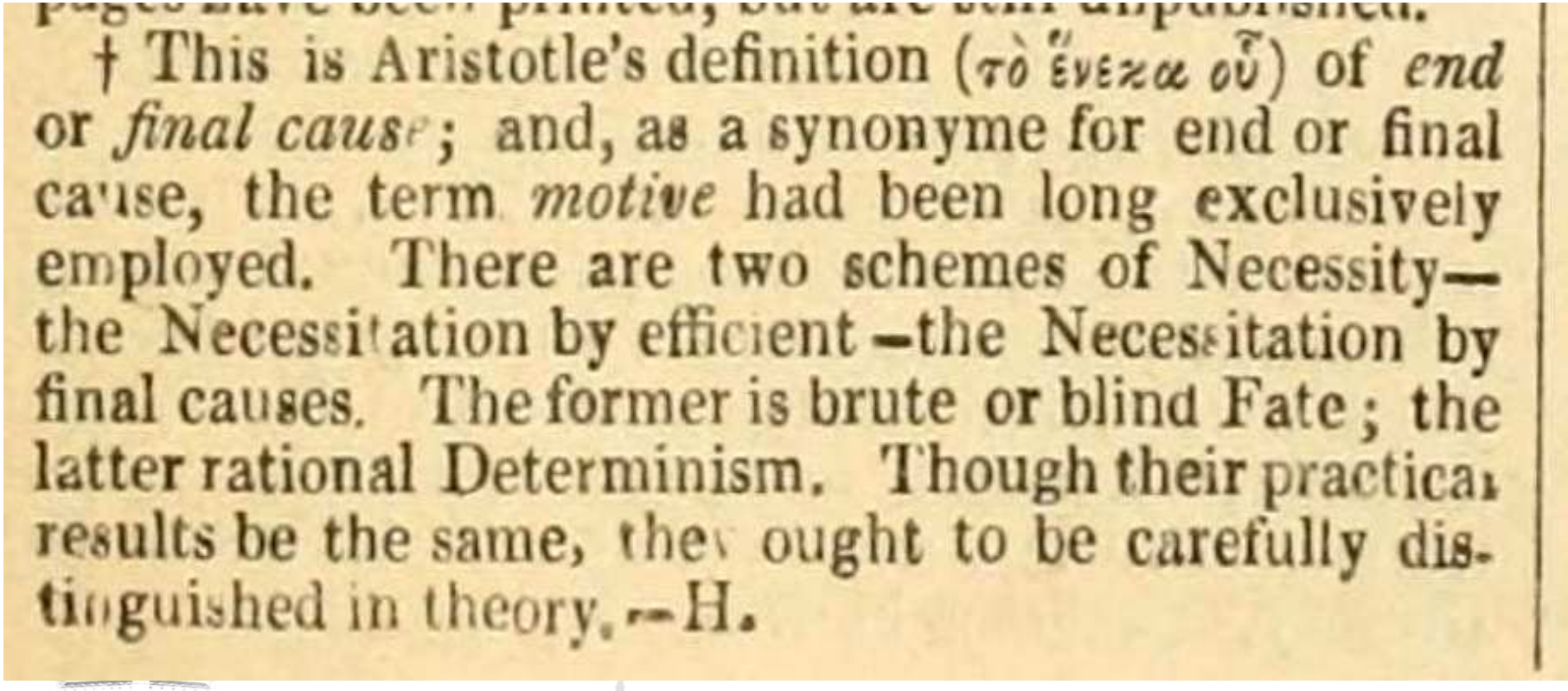
terminus "*a boundary-line*, *boundary*, *bound*, *limit* (syn.: finis, limes, meta)”.

O.Fr. *determiner* (12 century);

The sense of "coming to a firm decision" (to do something) is from 1450

The rise of modern meaning of determinism

Sir William Hamilton (1788-1856), *The works of Thomas Reid, D.D.; now fully collected, with selections from his unpublished letters, 1852, p.87*:



† This is Aristotle's definition (τὸ ἕνεκα οὗ) of *end* or *final cause*; and, as a synonyme for end or final cause, the term *motive* had been long exclusively employed. There are two schemes of Necessity—the Necessitation by efficient—the Necessitation by final causes. The former is brute or blind Fate; the latter rational Determinism. Though their practical results be the same, they ought to be carefully distinguished in theory.—H.

The rise of modern meaning of determinism

Oxford English Dictionary:

"The philosophical doctrine that human action is not free but **necessarily determined by motives**, which are regarded as external forces acting upon the will."

1855 W. Thomson (Lord Kelvin) in *Oxford Essays* 181: "The theory of Determinism, in which the will is regarded as determined or swayed to a particular course **by external inducements and formed habits**, so that the consciousness of freedom rests chiefly upon an oblivion of **the antecedents to our choice**."

1860 Mansel *Proleg. Logica* App. Note D. 334: "The latter hypothesis is Determinism, a necessity no less rigid than Fatalism."

1880 W. L. Courtney in Abbot *Hellenica* (1880) 257 "Epicurus... was an opponent of Fatalism, not of Determinism."

The rise of modern meaning of determinism

Pierre Simon **Laplace**, *A Philosophical Essay on Probabilities,* 1812*:*

- "We may regard the present state of the universe as the effect of its past and the cause of its future."

Calculability:

+ Intellect

+ Ability to obtain data to analysis

+ Data (i.e. **all forces + all positions of all items)**

+ A single formula

"For **such an intellect** nothing would be uncertain"

The rise of modern meaning of determinism (XX Cent.)

Schlick: “Determination therefore means Possibility of Calculation, and nothing else".

A syntactical characterization of determinism

Schlick, "Causality in Everyday Life and in Recent Science", 1932:525, **Russell**, “On the Notion of Cause…” 1953, **E. Nagel** (1953, 1961), **Smart** (1968), **Popper (***The Open Universe*, 1982:36), **Markosian**, “The Open Past”, 1995…:

Roughly,

- a theory T is deterministic just in case,
- given the state description $s(t_1)$ at any time
- the state description $s(t_2)$ at any other time t_2 is deducible from T.

The rise of modern meaning of determinism (XX Cent.)

S. Langer (1936: On a Fallacy in 'Scientific Fatalism' pp. 474-478):

The modern "scientific fatalism" is "the assumption that there is a theoretically knowable collection of causes for any act".

The doctrine of determinism, in its philosophic form, is "a modern version of belief in Fate."

Van Inwagen (*An Essay on Free Will*, 1983:23) **fatalism** "the thesis that it is a logical or conceptual truth that no one is able to act otherwise than he in fact does; that the very idea of an agent to whom alternative courses of action are open is self-contradictory."

J. M. Fischer (*God, Freedom and Foreknowledge*, 1989: 8) **fatalism** "is the doctrine that it is a logical or conceptual truth that no person is ever free to do otherwise."

The rise of modern meaning of determinism

Logical determinism = logical fatalism?

Jordan on **Łukasiewicz** ("Logical determinism,"1963:1) "strict determinism" is the outcome of

- *the principle of bivalence*, with two additional assumptions:
- *the correspondence theory of truth,*
- *timelessness or absolute character of truth.*

Jordan, (ibid., p.3):

principle of bivalence => strict determinism

strict determinism => fatalism

ergo: the principle of bivalence => fatalism

Determinism / Fatalism

Cahn (*Fate, Logic, and Time***, 1967:8)** fatalism "is the thesis that the laws of logic alone suffice to prove that no man has free will"

Taylor - "Fatalism", **1962**, 'standard' argument for (logical) fatalism - **nowhere recalls determinism**

Taylor, *Metaphysics*, 1982, p. 55.

Determinism - all events are rendered unavoidable by their causes.

Fatalism - certain events are going to happen regardless of causes.

Servius example – "Pompeius will triumph three times, no matter what happens" (*ad Verg. Aen.*, iv, 696):

$\vdash \{[(A \rightarrow B) \& (\sim A \rightarrow B)] \& (A \vee \sim A)\} \rightarrow B$

Taylor: "Fatalist is a determinist with an attitude"

The rise of modern meaning of determinism

Bredley, 1959, "Must the Future Be What is Going to Be?"

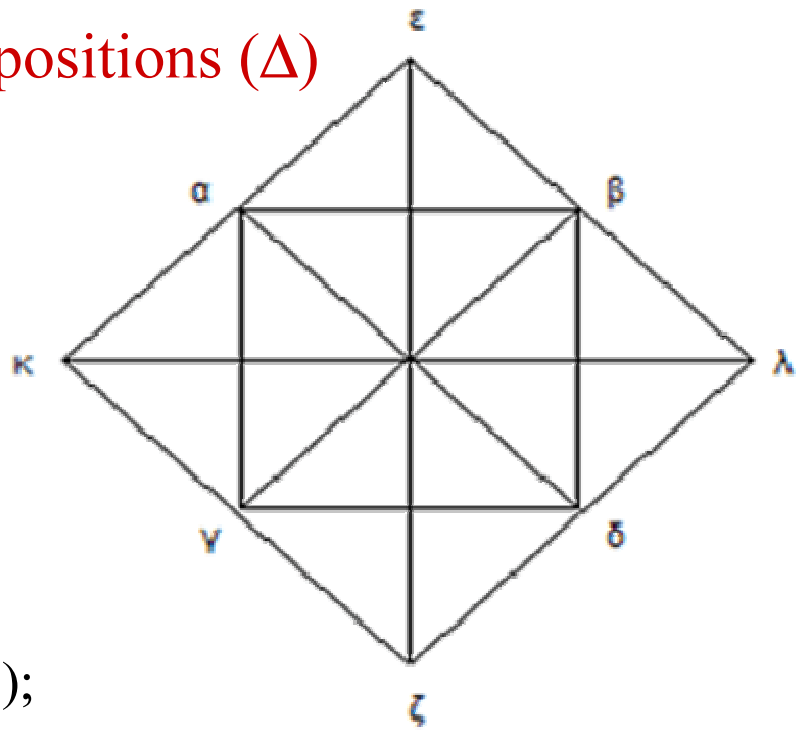
Criticizes usual assumption: logical determinism implies (logical) fatalism. It is not true.

Mistake of *ascribing* *logical necessity* to *causal necessity* and *causal necessity* to *fatalism*;

'x is causally determined' → 'x is logically determinate' 

'x is logically determinate' → 'x is causally determined' 

Woleński's Diagram (octagon) of oppositions (Δ)



a) radical determinism (**RD**):

$\forall A(\varepsilon), \forall A(\alpha \vee \beta), \forall A(\mathbf{D}A \vee \mathbf{D}\neg A)$;

b) radical indeterminism (**RI**):

$\forall A(\zeta), \forall A(\gamma \wedge \delta), \forall A(\neg\mathbf{D}A \vee \neg\mathbf{D}\neg A)$;

c) moderate determinism (**MD**):

$\exists A(\alpha \vee \beta) \wedge \exists A(\gamma \wedge \delta); \exists A(\mathbf{D}A \vee \mathbf{D}\neg A) \wedge \exists A(\neg\mathbf{D}A \vee \neg\mathbf{D}\neg A)$

d) moderate indeterminism (**MI**):

$\exists A((\gamma \wedge \delta) \wedge \exists A(\alpha \vee \beta); \exists A(\neg\mathbf{D}A \wedge \neg\mathbf{D}\neg A) \wedge \exists A(\mathbf{D}A \vee \mathbf{D}\neg A)$;

e) minimal determinism (**DM**):

$\exists A(\alpha), \exists A \neg\mathbf{D}A$;

f) minimal indeterminism (**IM**):

$\exists A(\zeta), \exists A(\neg\mathbf{D}A \wedge \neg\mathbf{D}\neg A)$;

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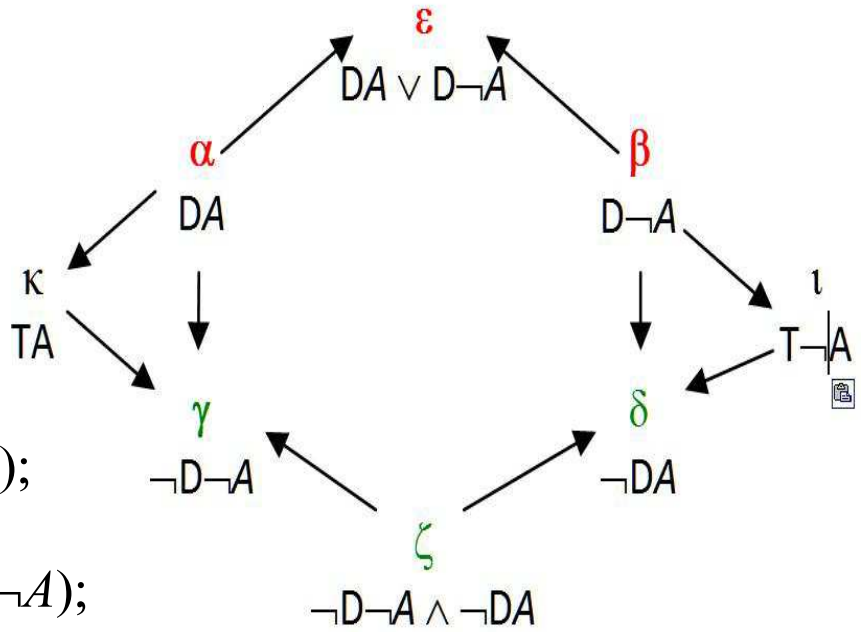

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Representation of Determinism in respect to Indeterminism

a) W.'s "Radical determinism" 

b) W.'s "Radical indeterminism" 

c) W.'s "Moderate determinism / indeterminism" 

Refined demarcation between determinism and indeterminism:

Indeterminism (radical / moderate) has at least one gap in its setting.

Toward minimal definition of determinism: determinism has no gaps.

Determinism and Laws of Nature

Incompatibilism relies on explicit deterministic assumptions

Direct Argument, *The Main Argument* (1974-75), *Consequence Argument* ("the standard argument") [Ginet (1966, 1980), Wiggins (1973), Lamb (1977), Peter van Inwagen (1975, 1983)]

van Inwagen, *An Essay on Free Will*, 1983, pp. 184-88:

(1) □(Po&L) =>P))*	**definition of determinism**
(2) □(Po => (L=>P))	from (1)
(3) N(Po => (L=>P))	(2) by Alpha "trasfer"
(4) NPo	A (the principle of conservation of the past)
(5) N(L =>P)	(3), (4) by Beta "transfer"
(6) NL	A, (the constancy of natural laws)
(7) NP	(5), (6) by Beta

Alpha principle: □p ├ Np
Beta principle: N(p=>q), Np ├ Nq

* van Inwagen: "…human agency is consisting in antecedental conjunction of past truths and laws of nature"

Determinism and Laws of Nature, Causes, …

Could we represent determinism without laws of nature, causes, …?

N. Cartwright, *Nature's Capacities*… p. 8:

"we must admit capacities, and my hope is that once we have them we can do away with laws. Capacities will do more for us at a smaller metaphysical price."

S. Mitchell - for use we do not need laws; ipso facto we do not need causal laws. Any truth can be useful so long as it is true where you propose to use it for prediction.

M. Bunge, *Causality*, p. 260: Statistical law and probability destroys determinism… : "Statistical laws are indisputably noncausal."

M. Anscombe: Theory about observation and causality without invoking laws.

Agent-causation (agent determinism) could be represented without laws

Ancient faces of fatalism - basic division: *full-time* and *part-time*

A full-time: (Arist. *Phys.*; *Meteor.*)

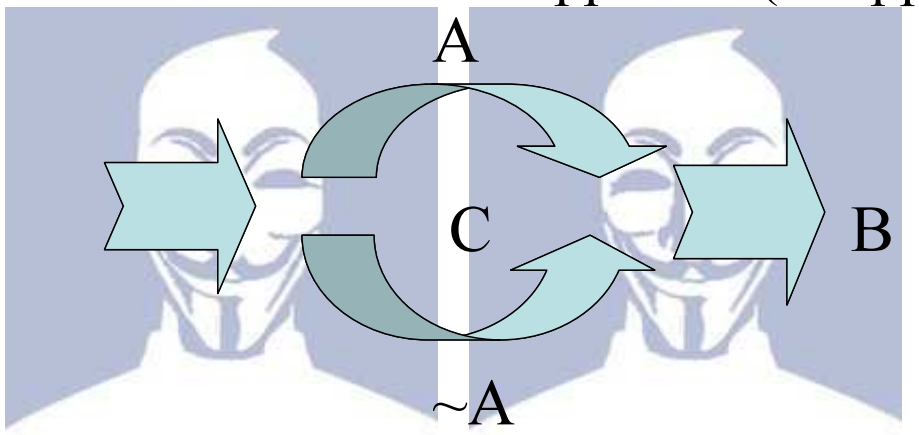
- ***atemporal*** (analytical) truths and ***omnitemporal*** truths (lunar sphere)

A part-time fatalisms:

- (Past fatalism, conservation of the past)
- Event fatalism - events are fated in respect to (topology)
  - a type of event
  - to a moment of their occurrence
  - to a place of their occurrence
  - to a means of realization their occurrence
- Conditional fate: *if* A, *then* []B.
- Diodorus' stretching fatalism: $<>p \Rightarrow ([]pt_i \vee []pt_k)$ where $t_i<t_k$; [] - modal operator "necessary soon or latter" (von Wright).
- Fatalism with a "switch" – fated events can be escaped (Calcidius, Boethius): "more mercy of Fortune (rational acting), less Fate, and *vice versa*"
- Some forms of ancient fatalism are common in a modern medicine practice

Determinism and causes

Profile of Aristotle's opponent (or opponents?)



Determinist to whom he replies in *de Int*. 9 makes no explicit appeal to causality or laws.

Aristotle reaches his conclusion that things happen of necessity apparently by reference to the premise that of two contradictory predictions

- one is true (18b7),
- one is earlier true (18b10),
- has always been true (18b10-11), and
- has been true for the whole of time (19a1-2).

Determinism and causes

Aristotle's principles in *De int.:*

- Correspondence theory of truth
- Logic of statements

So called **"Laws of Thought"**

- Principle of non-contradiction: ~(p & ~p)
- Principle of Excluded the Middle: p v ~p,
- ? (Principle of Bivalence: T v ~T)
- Principle of Identity (definitional signification): p → p

Some metaphysical principles:

- conservation of the past (past fatalism)
- asymmetry of time
- time direction (LF to RT) …

Recipe for Deterministic / Fatalistic Soup

Fatalism (minimal):

fixed future point (+ past fatalism, i.e. conservation of the past).

Once in the past it was true that **at least one entity** (*event*, *occurrence*, *truth of predictive proposition*) **inevitable will be actualized.**

Determinism (minimal):

We do need some (like in Schlick and Russell representation):

- simple structure of elements (***S*****);** *set of elements* (***A***); *relational structure* (***R***, function or some principle of directional elements ordering)

$$\boldsymbol{S} = \{[(a, b, c) \in \boldsymbol{A}] \ \& \ (a)(\exists b)((\exists c)(b\boldsymbol{R}a \ \& \ a\boldsymbol{R}c)\}$$

Poset ***S*** preserves our concept of minimal ***R***-determination

Contradictory side of ***S*** will give us minimal definition of (gappy) indeterminism: there is at least one *a* that either has no ancestor or it is not ancestor itself to any element (it is undetermined but determining).

Recipe for Deterministic / Fatalistic Soup

This is the list of possible ingredients:

Causality,

Laws of Nature, Logic (above listed “laws of thought”),

Indeterminisms (from minimal to maximal),

Statistical or probabilistic determination, Fatalism, Mechanism,

Technology, Economy, Dialectic...

For example:

Nomological + causal + determinism

Formulation of our mission:

- to inspect a way of using of philosophical concept (in this case, a concept and a doctrine of *determinism*) and
- to illustrate how it is possible to make some restrictions of its vague use and its imprecise meanings by applying a method of classification.

Results of our attempt:

- There are several different notions of determinism.
- They could be classified according to certain proprieties and conceptually systematized.
- Outcomes enable better understanding of some philosophical theories and their shortcomings.

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