

# Lecture: Hist of Phil Sci - intro 1st Critique

22 Oct  
2014  
①

← remark on page numbering

## 1st Preface

- goal: knowledge pure reason may attain is independent of all knowledge experience (pp. 9, 11) pp. Axi, xiv
- 2 aspects: objective & subjective, former more important pp. Axi - xvii
- Feign no hypotheses (Newton) - p. 11 p. A xv

## 2nd Preface

- remarks on logic (Bviii) - poignancy  
(he gets so close when later in book he observes that I is not a predicate)

- investigation of nature: reason constrains nature to give answer to questions of reason's own determining (not "blind gropings") Bxiii

→ cry of independence from Newton,  
but w/ a kernel of insight into experimental method

→ n. 11 sci of nature must show way for metaphysics,  
because of their remarkable success in being a  
scienza Bxvi

- as metaphysics, like his views on nat'l sci,  
must assume that objects conform to our knowledge,  
determining some of their character prior to experience Bxvi
- ⇒ if objects <sup>(by object form)</sup> must conform to intuition, then  
∃ possibility of a priori knowledge Bvii
- ⇒ experience must conform to concepts

Footnote 9 Bxviii - explicit modeling on nat'l sci method  
by looking for what can be refuted or confirmed,  
by comparing "2 viewpoints", in connection w/  
experience & in connection w/ isolated reason, to see  
whether they agree - akin to Newton's method  
(1<sup>st</sup> meth, then application to experiment - see scholium  
detailing experimental confirmation of Laws)

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⇒ startling consequence: 'we can never transcend the limits of possible experience' Bxix

⇒ we have knowledge only of appearances, not the thing in itself - latter is real per se, but not known by us Bxx

- hypothesis that reason conforms to objects - things in themselves leads to contradictions (Contradictions of pure reason) Bxxx

→ contradictions vanish when we assume that objects as appearances conform to our mode of ~~per~~ rep Bxxx

→ but though we can't know things in themselves we must be able to think them

## Intro

- different criteria for "a priori" - see p1 of their notes on defs of terms

### analytic vs synthetic

when we think 'A is B', either

i) B 'belongs to' A (the subject) - analytic

ii) B 'lies outside' A but still 'connected' to it - synthetic

analytic - connection of B to A thought through identity

synthetic -

analysis - breaking up subject into component parts

synthesis - adding concept to subject not "thought in it",

no analysis could be it forth - ampliative  
- requires input from intuition B15

⇒ but: whence comes these concepts? whose?

why the externalisation? (only one concept of body)

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## Guilt Prob of Pure Reason

How are synthetic a priori judgments possible?

that they are possible shown by axioms of pure math  
& sci (conservation of mass, N's 3rd Law)

⇒ Kant based this on structure of Principle - but  
got this wrong, at least from N's point of view -  
see modesty at end of N's preface, and  
method of justifying Laws, and the 4th  
How Rule of Reasoning

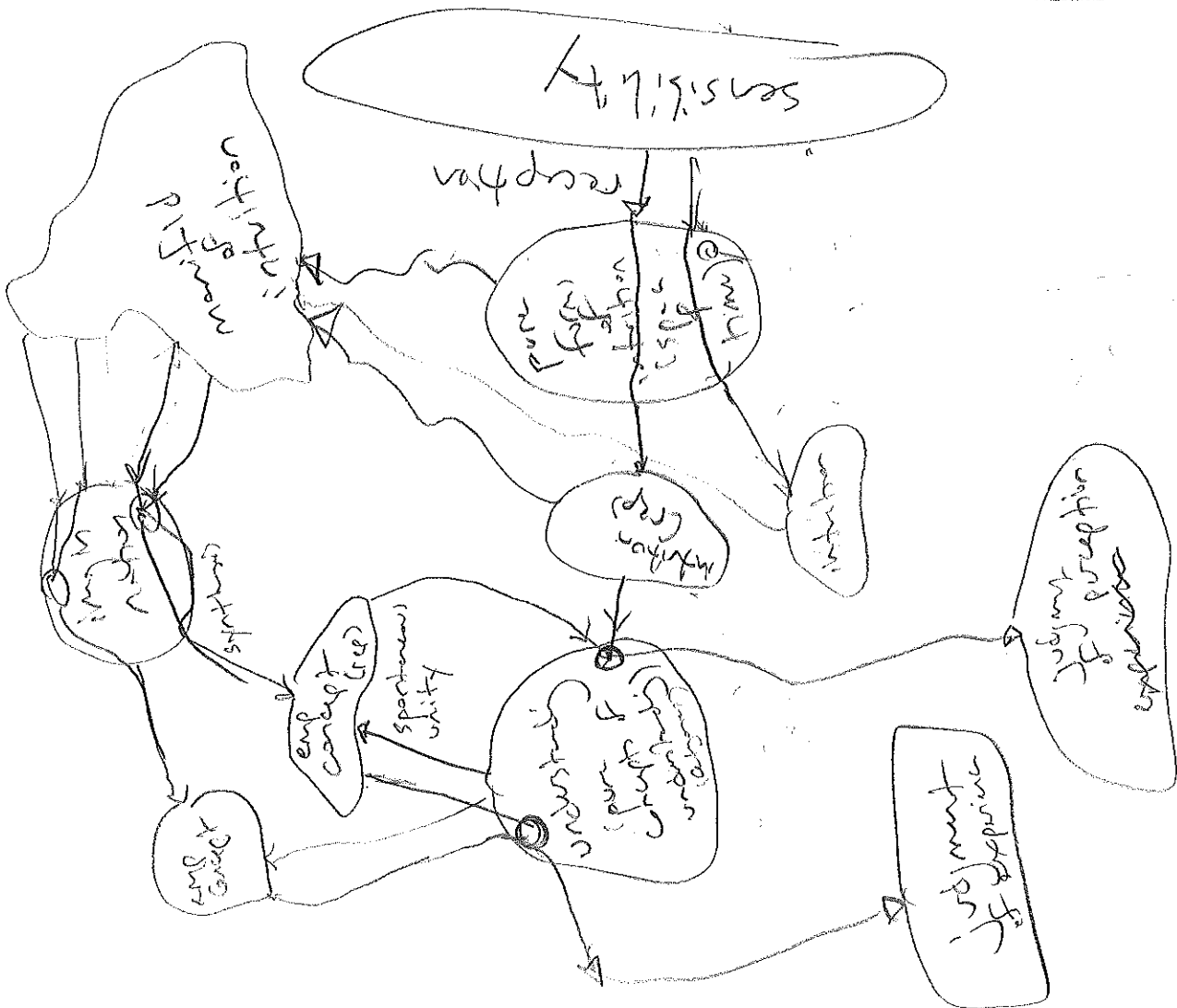
# Flow chart of cognition/intuition

then

titst

tit  
influence

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- a priori - i) knowledge of object prior to being given in intuition/  
experience, all experience
- what are  
nec., what  
sufficient  
conds.?  
Circularity of  
def'n, circular  
a priori seeks itself,  
a priori?
- ii) knowledge of what we ourselves put into the  
experience of objects
- distinguish "beginning of experience" from "founded in experience"
- opposed to a posteriori
- iii) pure - priori - no admixture of anything empirical B3
- iv) when thought, thought as necessary B3's <sup>and when demand</sup> <sub>only for necessary</sub> judgment is absolutely

know/knowledge - be able to prove possibility of object, either  
from actuality in experience or a priori by means of  
reason - Fr a, Bxxiv

think - any concept that is not self-contradictory

(\*) [so how can we think things in themselves if they  
lead to antinomies?] Fr a, Bxxiv

a priori cont.

~~transcendental~~ (iv) cont. - is absolutely (or purely) a priori

v) thought of strict universality B4

vi) indispensable to possibility of experience - but B5  
does that show them to be independent of  
experience? perhaps it shows them to be necessary  
and universal, but that does not nec'y come to  
same thing

vii) a priori concepts - gotten at by principle of 'reduction'  
(stripping) properties B5-6 - related to above?

viii) but unconditionally valid ~~and universal~~ and universal  
under restriction of our forms of intuition does  
not mean logically necessary (judgments of intuition  
by beings other than ourselves could be different B43)

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- ①  
Concepts - reps of obj's formed for the mind's  
capacity to spontaneously produce such - for itself.  
→ the understanding: unity of act of bring'g diff reps under  
one common rep
- 1st talk about sensibility and intuition from ② of  
these notes

"understanding can intuit nothing, senses can think nothing,  
only union gives rise to knowledge"

principles - how judgment applies <sup>concepts</sup> ~~principles~~ of understanding  
to appearances,

judgment - faculty of subsuming under rules

Synthesis - act of putting diff reps together and grasping  
what is manifold in them in one act of knowing

→ ~~what is manifold in them in one act of knowing~~

→ performed by imagination

→ understanding brings this synthesis of reps to concepts,  
the by way of the concepts (<sup>pure</sup> ~~principles~~ of the  
understanding) that give unity to the pure synthesis  
of the manifold of intuition

⇒ a judgment

synthetic  
judgment of  
experience - all synthetic - is analytic judgment  
has no need to go beyond the subject, no need  
to rely on or invoke experience. though the  
concept may have "begun with" experience -

but  
not all synthetic judgment are of experience  
(a priori)

app - a combination of intuition and <sup>understanding</sup> judgment into a  
unified whole, not mere perception

apodictic certainty - demonstrative, for known judgments,  
grounded in ~~derived from~~ <sup>a priori type</sup> principle of contradiction in  
the sense of known from - math is derived  
using princ of contra, but is not known by it  
but - geom & spec have apodictic certainty

transcendental - knowledge not of obj's but of mode of  
knowledge of them in so far as this mode is  
to be possible a priori

⇒ grounds for possibility of a priori knowledge  
1) knowledge must result from principle (2) possible only on assumption of it

sensibility / intuition - objects are given to us, in immediate  
relation to them

understanding - objects are <sup>thought</sup> <sup>(which given by intuition)</sup> and so give  
rise to concepts

⇒ sensibility is the capacity for perception of objects, intuitions  
are the repr. occasioned by acts of sensibility

appearance - undetermined object of empirical intuition

not intuitions

because sense-modalities  
(sight, touch, etc.) agree  
w/ formal repr, but give no knowledge  
of objects, merely subjective

- but roses are appearances, at least w.r. to  
as they pres. coz we have not yet  
subordinated it under a concept?

## Trans Aesthetic

- appearance = undetermined object of empirical intuition
  - matter = corresponds to sensation
  - form = what <sup>determining</sup> ~~order~~ manifold of appearance to allow it to be ordered  $\rightarrow$  allows it to move from appearance to what?
    - $\Rightarrow$  form must be a priori

pure sensibility / pure intuition = the form of appearance, nothing belonging to sensation

pure form of outer sense = space

pure form of inner sense = time

## space

- similar in flavor to N's discussion, but completely divorced from requirements of dynamics, only relies on static geom

$\Rightarrow$  condition for possibility of (outer) appearances

- can't be a concept, since it <sup>is thought of</sup> containing  $\infty$  of reps w/in itself, so must be a priori intuition

- also, no judgment can be obtained from a concept by itself that goes beyond the concept

$\Rightarrow$  doesn't rep property of things in themselves (things), no determinations of things

$\Rightarrow$  ~~viewed~~ limitation - viewed as objects of our sensible intuition

- $\Rightarrow$  judgments universally valid (but not logically necessary w/o that limitation)

$\Rightarrow$  empirical reality for outer perceptible objects, transcendental ideality for things considered under pure reason

## dyns

synthetic a priori from considerations about how forms of outer & inner intuition must be constituted (causality, e.g.,  $\Rightarrow$  2nd Law)



# Lecture: Kant of $\phi$ Sci - Reflection on K's

12 Nov 2014

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## Conclusions for Future $\phi$ Sci

① strict divide between int perception/intuition and cognitive content (deductions of, components of, understanding)

$\Rightarrow$  later division between 'theoretical terms' and 'observation terms' (Log. Emp, Comp)

② possibility of experience (<sup>objective</sup> knowledge) constrained by our a priori forms of intuition and of understanding

$\Rightarrow$  <sup>intr:</sup> possibility of scientific knowledge constrained by the theoretical forms within which we formulate and by whose application we explore the content of scientific theories, and the way in which those forms shape possibility of observation of measurements

stage of scientific theories, nature of 'a priori' (Kantian/Freudian)

$\Rightarrow$  "theory-ladenness"

③ phenomena vs noumena

$\Rightarrow$  no "ready-made given", ~~that~~ not sense not exploration of things in themselves, but data structured by our forms into phenomena

Russell's structure of relations

$\Rightarrow$  realism vs empiricism debate

④ nature of geom't knowledge of physical space

$\rightarrow$  Poincaré's conventionalism

$\rightarrow$  Einstein's