

James R. Newman - The World of Mathematics

p. 1834 (Hermann Weyl) on technical symbols; the destruction of words (in the sense of names); words 'becloud' the understanding of reality.

p. 1838 Mathematics shake off the fetters of language.

C. D. K. agrees to this relative to modern physics - which would indeed be hindered by words.

The problem of words, as discussed in the Peripatetics, is side stepped. Thus philosophers of mathematics do not ask what a word is.

We cannot do without words to deny that words are necessary or unnecessary; nor can we do without them ~~there~~ ambiguity.

(hand) (seize)  
Manus + fendere manifestus

a manifest thief is one caught in the act. (ref. hand)  
to appear distinctly - evident to senses  
to be beyond doubt - evident to mind

John of St Thomas seems to say "cause" is univocal even as in logic and in nature. [He does the same for the 5 predicables]

Moderns do this same thing. They want all causes to be univocal. Russell tends toward efficient cause. The reason for the complexity which these men and men in general try to overcome is principled not (necess) in things but in the nature of the human mind.

Aristotle played with his adversaries because he tricked them into a univocal understanding of "Cause" & that as efficient.

noise, white, feel, smooth refer immediately to something known directly to us. No further reference is necessary.  
cf I, 13 in the Summa theol. on naming.

not(?) Bluefish however (since fish is "sensibile per accidens") if we insists that all blue fish be bluefish & v.v. Then we are confusing the id ad quod and id a quo nomen imponitur.

Similarly (I, 13, 11) concerning the proper name of God. It is "Qui est" but only insofar as it is id a quo whereas when "id ad quod" referred to it is "Deus".  
Ese is most common and known to us. (N.B. Deus is taken from Providence.) St. Paul ad Ephesios ch 4 in St Thomas on "all paternity is referred to God" he makes the same distinction. Creatures are first known & here paternity is first grasped but paternity is in God first and most fully.

Note in calling God 'good' we are not doing so because of Gods causality of goodness.

If a term is to have meaning it must in some way or other be referable back to direct sense experience - which is first known to us.\* (cf Jespersen: "Semantics"?)

Heidegger thinks that philosophy will grow by returning to original impositions, i.e. the a quo or id ad quod

Recall symbol(?) { a quo "known together" ← ST Thomas  
1st ad quod wedding ring  
2nd ad quod math. symbol } Heidegger ← a sign of contract  
a heap, a collection

where a quo  
nita { substance  
improper (verine)

of Beginning of Perikermennais.

\* Cf Logical Positivists (who would not admit "in some way or other")

Light - first that by which we could naturally see  
sight - the power or act referring to the sense.

Sight is extended: "see how it smells" "see how warm this is."

Light " " "Look at problem in the light of ethics."  
In II Sent. q1 art 2 utrum lux proprie...

Triangle - the Triangle on the blackboard and I see it sensibly. But I also say I see the properties of a triangle. This is not metaphorical but (see Pot 2, ad 3) "mind's" sight could be metaphorical.

Light and sight are ambiguous but acomiles.

The conceptions to which our a comiles naming applies

The distinction } analogous (cannot always be)  
                              } metaphorical (clearly seen.)

Light is metaphorical when it is not applied to something else without change of meaning

Metaphor is based on a likeness grasped by the one who imposes the name. If you use the word without changing the imposition and yet apply the word to something which is not the subject of the property

You do not change the imposition of a word in metaphor. ←  
John of ST Tho. calls metaphor an (improper) supposition.

Capetan said health is only extrinsically in medicine & urine. But the essence of analogy is not a question of extrinsic & intrinsic but of prior and posterior, says Bonaventura, and it is in the logical order - analogy of names.

analogy is analogous

There is a proportion amongst the names and again  
" " " amongst the things named.

3 March 5, 1873

2B

I 67, 1

Sept 4 2 ad 3

2 Sept d 13, a2 --

Many philosophical terms are "technical" inasmuch as they require an extended etymological justification because of a transliteration from another language. Eg. "philosophy" in English, or "abstraction" etc. Thus "abstraction" means "a certain operation of the mind" but there is no obvious connection unless you know Latin (*ab+trahere*). This is a frequent modern tendency to set up a "technical" language — a tendency which is bad for philosophy though it may be O.K. for modern sciences.

In a sense there are "technical" terms in philosophy. e.g. prime matter insofar as a new imposition is given in the course of a philosophical discourse — because in such discourse the kind of development is clearly seen — its previous and perhaps "a quo" imposition will be explained. Philosophy grows by extending the analogy.

If we could assume that what is most knowable good is ~~the~~ what is most knowable good <sup>nos?</sup> then that Descartes in fact — then the need for leading back to a primary source of the name, the first imposition, would not be necessary. Descartes thought he had immediate and perfect knowledge of God & of his own soul — whereas they really occur at the termination of an extended discourse. For Descartes the word "soul" was applied immediately.

and he thought that it meant just and immediately only  
the human soul as Aristotle arrives at the term III De Anima.

many later impositions come to be used by comparisons,  
metaphorical extensions<sup>(?)</sup> etc., even by jumping from  
one order to another e.g. "line" may mean sensible  
line which is not the same as mathematical "line":  
having only one dimension. In mathematics line may  
be univocal.

N.B. "Going back to sense knowledge" means not just to the  
sense experience in abstraction from what the intellect  
does when we are having sensation — such as forming  
universal concepts of what is being sensed.

It has been observed that rudimentary meanings refer  
to naive and simple experiences largely in the practical  
order. Hence they complain that to recognize such  
beginnings is to fall into anthropomorphism. But  
this overlooks the fact of new impositions due to  
progress in knowledge. If the old term were  
carried along meaning exactly what it always meant,  
then all philosophical discourse <sup>would be</sup> is in metaphorical  
terms!

They suggest therefore a purely technical vocabulary.  
However this would be based upon some sort of  
esoteric intuition which only the few could grasp.  
By reason of their special gifts (E.g. the intuition  
of "being".)

Words referring to objects of immediate sense experience  
need no explanation. The id agas and id ad quod  
are here the same. If also mathematics present to imagination

Aristotle's use of animal with ref. to God: cf. In Meta. (2554)  
A kind of way of circumventing our lack of universale in rebus

Examples of words that do require a knowledge of prior impositions: 33

(a) form or *μορφή* (*morphe*) - shape is, that by means of which we can distinguish things as to their kind. eg horse or table vs chair  
(N.B. a climber has a figure but not a form. The latter is relation to knowledge of the kind of thing that the object is) accord to Aristotle.

Unless you relate "substantial form" say to this meaning you do not know what substantial form really means.

(b) light or *lumen* / *lux* - That which allows one to see sensibly. Intelligible light is not meaningful unless you have this meaning.

(c) nature - birth → principle of birth <sup>(order of knowing?)</sup> - of generation ::  
Then of change in general in the thing which changes → matter & form. These principles  
(order of reality: *natura* first means "form")

Note a word in sense of *nomen* (or *verbum*) has

- a) matter - the sounds or marks on paper
- b) form { the arrangement of the marks or syllables  
the signification which the mind intends and understands in this arranged matter.  
Here is where analogy appears

magis notum nobis

magis notum secundum se

In IV Meta. 1, (536)

An analogical term does not stand for something which is one in the way in which genus is one (as a univocal)

Since metaphysics is about all that can be named "being" the discussion of analogical naming is apropos here.

cf. In IV Metaph (534). The science is about all that can be named. Also notice that St Thomas is speaking of 2nd intentions & he does this in Book II - indicated by "predicator", and "dicatur". The latter also indicating that St Thomas is aware of the fact that he is using words, is communicating, is not in direct contact with things for communication purposes. Words are signs of concepts, concepts of things. (cf 535)

In 536 notice that the 'one' to which all the relations or "habitudes" must refer is said to be "one in number" but this doesn't mean as John is one in number but as the one which is designated by a univocal name what's perse one (e.g. animal, man, circle -- i.e. as a "nature" is one.

3 examples: <sup>①</sup> finality, <sup>②</sup> efficient causality then relations <sup>③</sup> to a subject.

1 { The ratio santatis is in the animal as in its subject. Medicine, diet etc. are healthy and this is the end of medicine & diet i.e. to make the animal healthy. The sign of health gets in here too - how?? It's the same health (one in number) which the animal has, the medicine restores, the food conserves & the name indicates.

2 { medical 

- the art
- the doctor or he who is disposed to ~~the~~ have the art
- the works & instruments & medicines

 all referring to that which produces ~~health~~ health in an animal

what of "one" itself:

43

one { in number  
in genus  
proportionally - the analogical one

539 Met.

ens multiplicatur dicitur : even in predication. There simply is no genus of being. To form the concept is to miss the notion of being.

That which is principally being is "substance" (subject) accidents are called ens because they inhere in a substance.

generation & motion are called ens because they are via to substance.

Corruption is called ens because it is a via to non-esse.

Privation and negation are referred to as ens (e.g. Blindness is in the man) because they deny substance.

Accidents as active or generators of substances also called ens

Negation of what is related to substance is called ens

[The accidents are not related to subject or substance in the same way even though we can say that all accidents are subjected in substance. To be subjected in (or to) is analogous term as is accident.]

[We can say quantity is a subject of quality & that substance is subject of quality... subject is analogous.]



Three ways of speaking of being (ens) can be reduced to 4:

(1) whatever is in intellect about which you can assert or deny. i.e. a ratio. This is the kind of ens that negation has since it can be predicated of positively or negatively; so also privation; what has being only in the mind (i.e. not relations that are real) hence entia rationis in a restricted sense.

{negatio - negatio simpliciter

{privatio - negatio relativa (note privation has a wider sense too. e.g. in the negation of negation - in mind only)

(2) Generation, motion, corruption - imperfect acts

to substance

to a from accident

from substance

∴ more imperfect

(3) Qualities, quantities & properties of substance which are imperfect but not (because) they contain non-being -- they don't.

(4) Substance. (note formum et solidum are not sensible... this is a kind of metaphorical usage)

"quasi" means "in as much as" - this passage.

"genus" is taken figuratively too for "kind" or "way" of saying being

There is a difference between "ens" and "suum" -

The latter is not in any way in medicine or urine or air - it is extrinsic to them as a form.

But ens in the analogical way is intrinsic to accidents & motions etc. yet it is named ens because of the habitude (relation) to substance. Cf. 5 44

because they are concerned per modum subordinatum

ways to/from substance or accidents of substance

properties of S

in essence

(544)

One science will live on what is said in many ways (of one nature) - major  
Being is said in many ways - minor

5B

∴ There is one science of being

He puts the minor first because it requires more explanation - he can give the major - in #544 - rather quickly.

(546) Science is knowledge by causes ∴ prime & principaliter Metaph. is about substance et. its causes & principles; even though all uses of ens are considered. It would be wrong to say that the subject of Metaphysics is "Ens communissimum" - common to substance & accidents and all else called ens.

(547) He refers to the logical genus of substance which is univocal as a category. You can't have a genus, even logical, which embraces both substance & accidents. The species here are sensible substances as well as separated substances however not ↑ qua sensible but ↑ qua separated (logically put).

If you consider sensible substances inquantum sensibilis - you are in Natural Phil; if you consider sensible substances qua "intelligibilis" - you are in Mathematics.

Skip to V Meta 8 (875 - 880) Division of Analogy; cf. 10 Ver.

Measure belongs most perfectly to "no. 1" because there is most perfect homogeneity between the measuring "1" and the units composing the number - says St. Thomas.

Continuous measure is already a come-down because the measure is arbitrary, not irreducible.

The unity of no. 1 consists in its being a measure, also changed  
By changing the impaction of "measure" we say the first in any genus is a measure

(876) note magis logica; the previous division of one is more <sup>cf(848)</sup> natural or real. Cf. De Trin. Q6, art 1, ad 1<sup>um</sup> just.

It is in this logical division that analogy appears

{ numeric - materia is one as it is under signate dimensions, undivided in re  
 specific - <sup>not numeral one</sup> ~~one~~ ratio or definition  
 generic - <sup>one mode of</sup> predication - agreement of mode that is  
 analogical - proportionately one is this agrees with that  
 as x agrees with y

Note dif: <sup>logical</sup> genus + <sup>logical form</sup> diff

↓  
 in some instances  
 genus here corresponds  
 with natural physical  
 genus e.g. nat. body

↓  
 will be outside  
 the physical genus

Note quoad nos substance & accident are relative terms  
 quoad se " " " " are not relative mutually  
 though accidents are relative to substance.

Just as one is said analogically of numeric, specific generic analogical so "analogical" is said analogically.

Thus

health { urine  
 food  
 air  
 ↓  
 animal

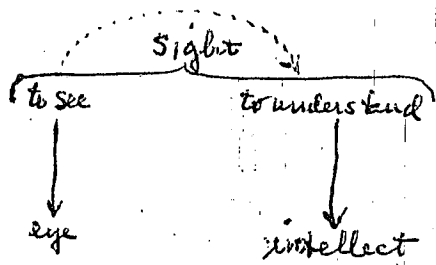
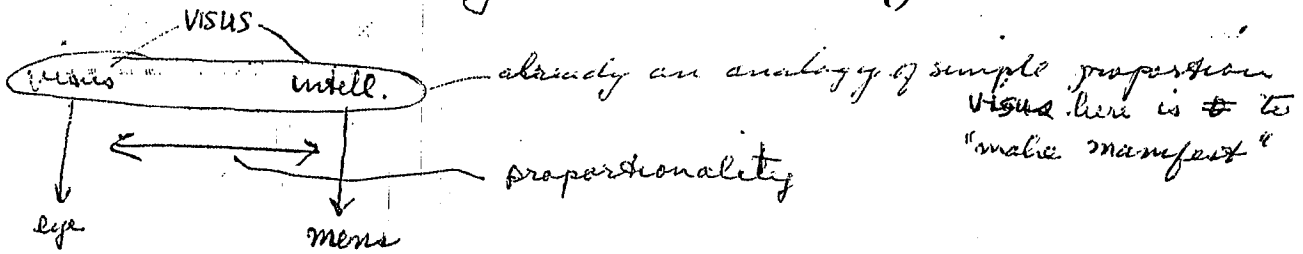
tranquillity { as { serenity  
 ↓  
 sea { air

Similarly in De Ver. visus corp: } as { intellectus visus  
 oculus } intellectus

Note (880) what is one in number is one in species  
 " " " " species is one in genus  
 " " " " genus is one in proportion } not vice versa

I, 13 is entirely a logical consideration & it is about names not about things even though the names are related to concepts and concepts to things. A <sup>vague</sup> knowledge of things is sufficient to get a logic otherwise logic would have to be studied last!

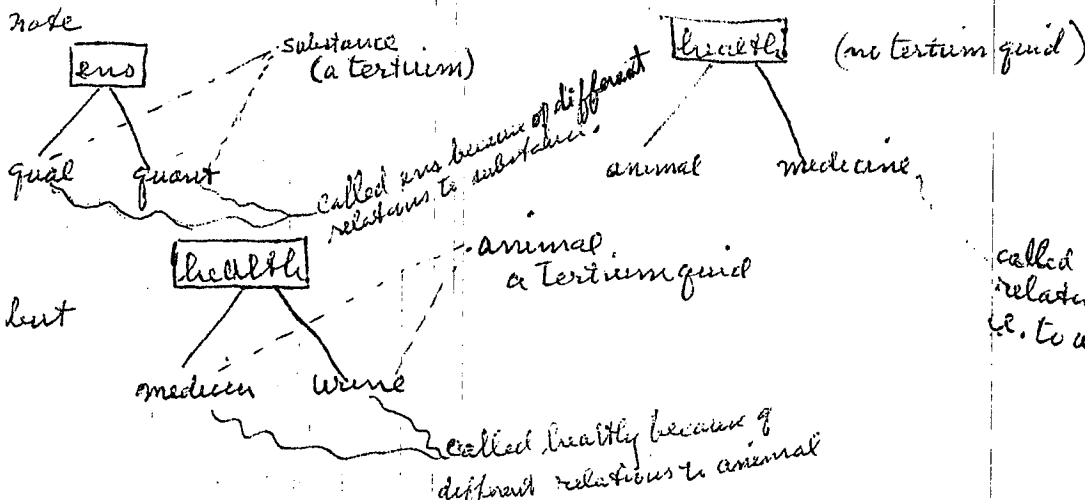
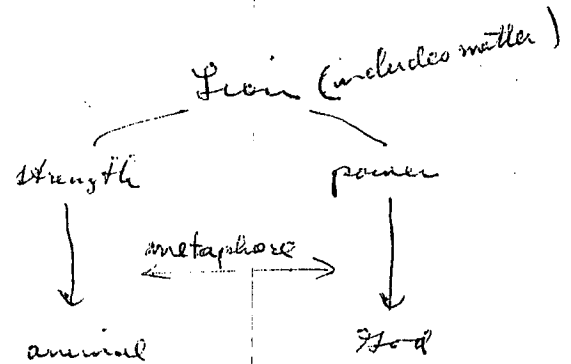
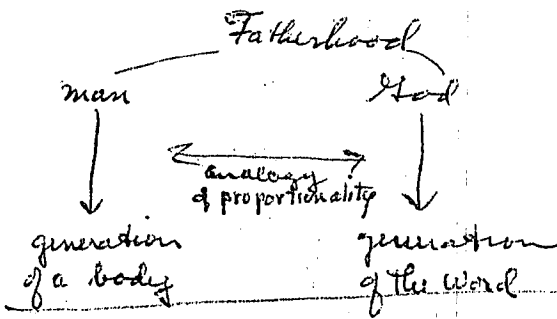
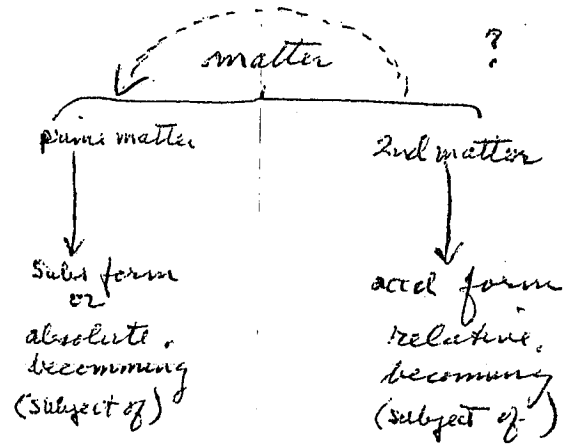
Can we say knowledge or science of God & men univocally?  
or purely equivocally or analogically.



$\frac{3}{6} \leftrightarrow \frac{4}{8}$  is not an instance  
of this kind of analogy but  
is rather analogous to it.

Diagram illustrating the relationship between numbers and concepts:

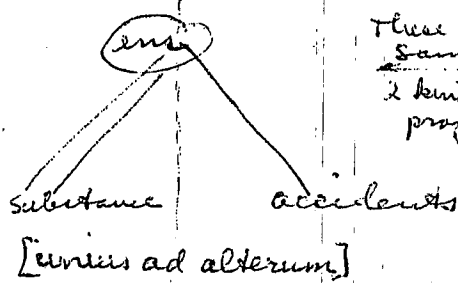
- Top row: **3** and **4** are connected by a double-headed arrow labeled "analogy".
- Below **3** is **6**, with a downward arrow.
- Below **4** is **8**, with a downward arrow.
- Below **6** is **to see**, with a downward arrow.
- Below **8** is **to know**, with a downward arrow.
- Below **to see** is **eye**, with a downward arrow.
- Below **to know** is **mind**, with a downward arrow.



called health because of its relation to the other term i.e. to animal

11e Pat., 7, 7

If predications of God & man were completely equivocal we would know nothing of God at all.

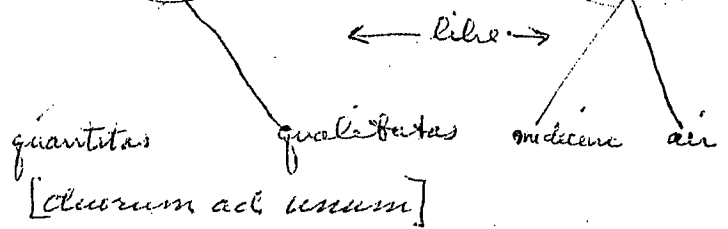


These are not the same at all  
2 kinds of proportion

ens is immediately divided into substance and accidents, said proportionately: said properly of substance and of accident because of its relation to substance

substance is prior of accidents

ens referring to substance



ql and gn are called ens only insofar as they relate to substance

gn as ql  
ens ens

medicine as air  
health health

because gn and ql have an habitude to substance (not to ens).

Substance is prior to quality and quantity

This is a kind of proportionality

gn as ql  
substance substance

∴ both can be called ens.

[Note what can be one to the logician may be many to the metaphysician Cf. S.T. I, 13, 5 & 6.]

Objection: you can only have names common to God & creatures

Genl discussion of proportion  $a$  to  $b$  as  $c$  to  $d$

- a) 2 things are related differently to something one which is a third thing (e.g. animal)

health  $\left\{ \begin{array}{l} \text{urine} \\ \text{medicine} \end{array} \right.$

- b) 2 things are related to 2 different things

tranquillitas  $\dots$  serenitas  
↓  $\dots$  ↓  
maris  $\dots$  aeris

The analogical name is "quiet"

De Ver., q 2, a 11

Twofold convenientia of proportion & ∴ 2 kinds of analogical community

- a) a convenientia of one to another because of a determined distance between them or of some other relationship  
as e.g. the relation of two to the unit given as an exemplum - not an instance
- b) a convenientia of one thing to another between which there is no proportion but for whose (different) relations to others there is a proportion because of a similarity  
exemplum: 4 to 8 as 3 to 6 (not an instance)

Instance of (a) ens said of substance and accident  
just as  $\left. \begin{array}{l} \text{two} \\ \text{accid.} \\ \text{urine} \end{array} \right\} \begin{array}{l} \text{is the double of} \\ \text{is the property of} \\ \text{is the sign of} \end{array} \left\{ \begin{array}{l} \text{one} \\ \text{substance} \\ \text{health of the animal} \end{array} \right.$

Instance of (b) sight said of eyesight  $\dots$  understanding  
↓  $\dots$  ↓  
eye  $\dots$  mind

- (a) is not to be used in divine naming because there is no determined habitudo (distance or relation) between God and creatures

In Defot., 7, 7

(8)

5. Thus distinguish 2 modes of analogical predication.

- a) <sup>thing is said of</sup> health is said of medicine & wine with respect to the animal <sup>substance</sup>
- b) ens is said of subst. & accidents one with respect to another and thus one predicate said of both.

He excludes a) in divine naming because there must be a prior third thing prior to the 2 things. nothing can be said of God & creature with respect to a prior third because there can be no thing prior to God or God's properties.

of b) (where something is said of 2 things because of a respect of one to the other) one must be prior to the other (as substance is prior to accident and animal to medicine) Admitted for divine naming compare this to (a) of the Ver. 2, 11 where he rejects what appears to be the very same kind of thing.

5. T. I, 13, 5 c

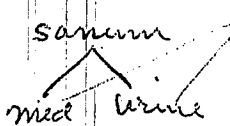
a) Many things may have a proportion to one thing as medicine & wine have a proportion to ~~health~~ health of an animal & so are called healthy.

b) one thing is in proportion to another in which health is said of animal and medicine or being of substance and accident.

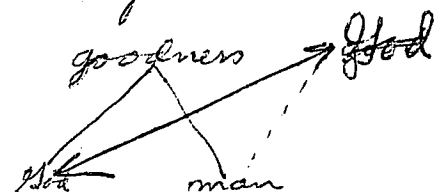
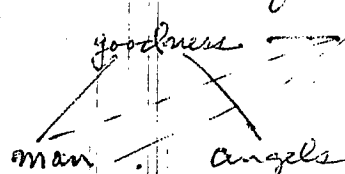
and in this way something is said of God & creature

--- which was excluded in the 1st. T. 7 the Ver 2, 11 again.

To reconcile the apparent contradiction and his other demand for duorum ad divina:

He excluded  animal because of the Tertium quid

But if the Tertium quid is God himself then he can grant it







Note: Goodness, ins, truth, wisdom are said of material creatures or of things related to men FIRST.

But when God is known these names are predicated first of God and he is known only after a demonstration (not just at say the end of the Physics) as in Natural Theology. You can't prove God's existence by going in the other direction.

cf Art 6 in I, 13

In the Metaphysics the word "principle" will take on analogous meanings and we shall proceed to discuss this. However first some remarks from W. Heisenberg "Physics and Philosophy" of Nov 1954 Atlantic Monthly - another article

[Not a remotely clue about symbols as substitutes for propositions -- while a so-called meta-language may actually be, not just a series of symbols, thus you hand a dollar to a man, selling ties for a dollar; this is an abbreviated or symbolized proposition "Here is a dollar which I want to exchange for one of your ties".]

De Trin. Q6, a1, ad 1<sup>m</sup> gl. - on the use of logic in metaphysics "propter locum in alia scientia" = a "processus rationalis".

Book V, lec 1, Metaph. — all of V is about naming  
i.e. about End<sub>+</sub> intentions in view of last intentions

- I what <sup>went</sup> ~~about~~ on historically about metaphysics
- II
- III definition of general pop of this science
- IV
- V about the names used in elaborating this science
- VI Start to determine the subject of the science
- VII A strictly logical approach (define substance logically & then show how it is compared to the metaphysical definition arrived at)

notice in (749) "the names which signify causes

First we consider the names of courses

- 1) generally
- 2) a special kind of cause. (nature)

Its one thing to know something is first and another to know how/why we know it first

This is divided:

913

- (A) Consider "Principium" - it is more common than "cause"
  - (B) "Cause"
  - (C) "Elementum"
    - Earth, Air etc
    - Matter & Form
    - Matter, Form and Privation
- said in  
different way  
is analogical  
is analogical

Re (A): First  
(761) → 2nd

significations of name "principle"  
Reduction to an (analogical) common  
term.

Principle - implies an order in multiplicity (prior et posterius)

Cause - implies an influence on the being or becoming  
of the effect

Note "influx" can be verified only of efficient cause

Order in multiplicity found in various things

1st known to us: order in local motion (quality  
and quantity change is too slow & less manifest)

3<sup>rd</sup> Orders in local motion: have ① magnitude

② in the motion itself ③ in time. The first is the foundation for  
the 2nd, the 2nd for the 3rd. (cf. II Physics)

The first imposition of "principle" therefore will be what is first  
in the order of magnitude through which a motion traverses (not  
just any undetermined magnitude).

[Note this is merely a ~~for~~ verification of the use of the name  
not an historical analysis of the first meaning - not  
even a logical (necessary) order of meanings - but simply an  
analysis of what is not known generally to men.] The  
order of words in common usage is the metaphysician's  
job - who is supposed to Order (all things - names included)

○ First, ∴ is the term of beginning of a local motion (A) (10)  
(note the opposite is called the end or terminus — see how "pop" will change to become an end itself; final cause)

(note the opposite is called the end or terminus - see how "pop" will change to become an end itself; final cause)

o 2nd whence something begins most conveniently to move (752) <sup>(B)</sup>  
(Eg, the pps of our knowledge is what is more knowable to us not  
what are in se. primary or most knowable in se)

In (A) we designated the beginning of magnitude, & so to the pop of motion

In ③ we do just the opposite. Magnitude is prior even tho  
it's pop is manifested by motion.

The Council says it seems that they are not analogous - rather I presume univocal i.e. where motion begins line begins, where line begins motion <sup>does</sup>

⑤ may be most arbitrary e.g. a horse starts a race where its most convenient on a circular track

We come to know the order in other motions is known in relation to local motion (754) and hence in these other meanings also of the notion of "principle". Thus in generation or becoming, the name can refer to two different kinds (a) intrinsic (b) extrinsic (analogically pop's by a new kind of analogy)

o 3rd the first thing in the generation of something  
e.g. intrinsic - the brain of an animal (or heart ??)  
e.g. ~~extrinsic~~ - the keel of a boat, the foundation of a building

○ 4th in generation where pop is extreme (green, blue bands)

e.g. a alteration: socrates turns warm - he started from warm  
↓  
quantitative: boy becomes larger

quantitative: boy becomes larger

mutatio (de esse  $\rightarrow$  non esse) (corruption)

{ de non-ense  $\rightarrow$  ense (generation jump)

mother & Father are pops of the child

note "war starts from insults" (the paper's beginning of war) is a moral example why is it put in (a)?

human action begins with a given principle thus  
the leaders who get others to act (principatus)  
the prince, the judge who are not called powers or  
principatus; (so are the president (who presides))

Ⓒ The art (in the artist) is a principle of the artifact especially the archtectonic arts (which order other arts) (as metalurgy directs the art of refining metals or the architect directs the brick-layer)

0 5th by similitude to the order in things, an order in (759) the knowledge of things and especially insofar as the knowing is a kind of "motion" going from principles to conclusions. (This evidences an analogy of proportionality) Going from the unknown to the known. Hence "That from which a thing is first known" — principle sometimes called "dignitates" (bonitas propter se.)

0 6th Causes are called principles: all causes are pps but not v.v. (quaedam here merely means "some" as a quantifier)

Then he reduces these to one common notion.

First however some difficulties:

He gives insult as a pcp of war as an example under natural instances of # 4. Ⓐ. This is not an instance but an example which is used as a synonym in which illustrates the exteriority of principiation

A second difficulty is in the order in this 4th mode is natural — moral — artificial whereas the latter is more easily grasped & moral is often a better example than natural. Why does he follow this order. Because we are speaking of principles and it is in the natural order the principle of motion that is most manifest in the order of naming. After that the moral principiation of the counseled will is not evidently an extrinsic principle (Causa consiliana) Cf. de Malo q. 3 a. 3. Cf. Humean difficulties. The artificial becoming is better for extensive not so good for principle.

Reduction: what is first

761 This is not a reduction to a genus but by way of showing that it  
762 is an analogical unity or community. He proceeds to show or review the differences. note "quasi" means as in 762

(94)

Plato that "good" could be said univocally of say substances and accidents or of various virtues and various foods.

The good, however, is itself divided by these various terms: lower prudence, love. (Animal is not divided by man and beast.)

These are not appetible - for the same reason. [Aside: Durandus a Santo Porciano Comment. in Liber Sent. tries to establish the ratio bonitatis by mere comparison of beings, not with reference to an appetite. Cf. John St. Thom's de Bonitate]

(95)

something said of many thing in plurality of ways

① according to reasons or ratios entirely different i.e. diverse - no order to one.  
"equivocatio a causa"

② accord. to ratios not entirely diverse but which agree in one respect of IV Metaph lec 1.

He gives three instances of this latter

Q1 They refer to one principle e.g. military } horse sword armor etc because of relation to miles

Q2 They refer to one end e.g. health } wine air diet because of relation to animal

Q3 According to diverse proportions to a same subject

e.g. ens } substance qualities accidents quantities because of their relation to the former substance the subject

Q4 accord to one <sup>proportionally the same or one</sup> ~~diverse~~ proportion to a different (diverse) subject e.g. power of sight said of

visus intellectus  
↓ ↓  
Corpus anima  
the one proportion to the diverse subjects

N.B. Could unum proportionem be accord. to quality i.e. one in the sense of the same or at least proportionally the same - then you are back to the interpretation above: the horizontal line could mean 1 numerically.

N.B. Some <sup>inclass</sup> want to make the 2 proportions subjects but this is to make them terms of a relation not truly subjects

On the other hand, the proportions are essentially the same,

animal

- 4 foot
- 2 foot
  - feathered
  - not

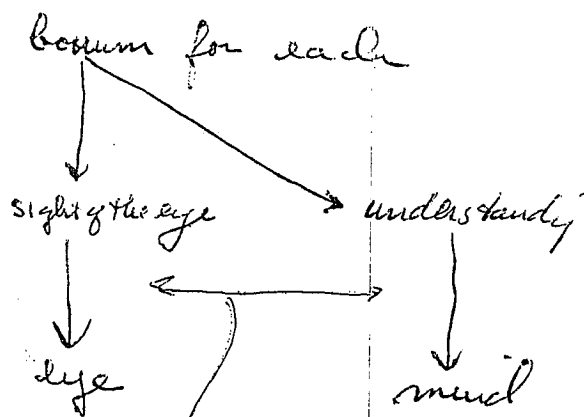
seminar is  
said of feathered  
& non-feathered  
unintentionally  
(inadvertently)  
a Rumpo genus  
is indicated?  
Said of it  
semito species

I Ethics 7 (95-96)

(96) Things called "good" with respect to a principle (a <sup>principle</sup> ~~principle~~ <sup>exemplar</sup> ~~exemplar~~ <sup>guide</sup>)

(an end to good)

why distinguish since any end is a principle of cause?  
Here the good as prop refers to efficient cause.  
And " " as end " " final cause.



proportion of proportions  
not of one "good" to another

where bonum is seen as intrinsic to both in the analogous way. whereas ens is not intrinsic to qual. & quant. in the analogy:

```

graph TD
    bonum --- qual
    bonum --- quant
    ens_dashed[ens] -.- qual
    ens_solid[ens] --- quant
    style ens_solid stroke-width:4px
    
```

In V Meta 2

Resting on the modes of use of name 'cause'  
species - final, efficient formal material  
modes of cause -

(763) One meaning:

id ex quo fit aliquid et est ei inexistens i.e.  
intus existens - material cause which brings  
out most the notion of dependence of effect on  
cause

He clears up the word inexistens } not existing  
existing in

Material cause refers to existing in as e.g. the silver  
is in the cup & the bronze is in the statue. This  
name 'cause' is applicable to genera as well as  
the species e.g. metal is the material (cause) of the  
statue.

A 2nd meaning:

species et exemplum - exemplar.  
(which a formal cause)

Imposition  
accd  
to a  
Greek  
dictionary

- eidōs -
- ① what is seen (first noted i.e. shape)
  - ② form or shape
  - ③ species of numbers
  - ④ nature of thing
  - ⑤ type or sort
  - ⑥ class or kind
  - ⑦ formal cause or essence
- paradigma - exemplum

"Causa formalis" is not taken here in an extended meaning

Two meanings:

- a) intrinsic to the thing - species
- b) extrinsic . . . . . → form in the sense of exemplary form not as in the thing

Extended to mean:

that which is expressed by the definition of the thing

We should not contract formal cause to the form which is related to matter & privation. Thus even the nature can be called formal cause though it is the intrinsic form which is primary in the nature so considered. Form in this wider sense perfects the quiddity.

Just as you can go toward more generic matter so you can go toward more generic form and it is still called a formal cause. Thus double, then duality relative to the octave (diapason) in sound, then number (a higher genus)

In Les 4 of Phys we saw Two wholes

1) Totum confusum signified by a name

2) This ↑ confusum can be defined by definition

The definition gives the parts <sup>explicitly</sup> of the thing known only confusedly by it, the def., has the nature of form relative to the confused whole.

Hence it can be a causa formalis.



Then the parts of the definition will become (13)  
"form" and "formal cause" with respect to the  
confused whole as merely named or defined nominally  
only.

[Anything predicated of something has the nature of form  
with respect to the patient but this 'form' is not a  
formal cause. But this is only in the order of predication.]

(765)

3rd meaning:

principle of change and of rest is.

The causa movens vel efficiens.

most known  
instance  
not alone

For example: Note also the deliberating (Consultative) is the  
beginning of the whole motion and is  
called an efficient cause. This consilium  
makes us responsible from the beginning and  
that's why he uses this example first. Deliberation  
gives an indisputable instance of the beginning  
efficiency of motion. This is from intellect.

For example: Father is the cause of the son - This  
is the order of nature.

Aristotle has given the two orders in which  
efficiency is found: intellect and nature. Then there  
is a summing up, a generalizing: all makers are  
efficient causes of the things made and all  
changers of things changed.

(766) of Q.O. the Meta Q3, 4.3

cause is analogical in } mode. 13B  
species  
divisions

Aristotle's modes of efficient cause { sufficient  
disponens { e.g. parents in generating child only a  
adjuncts { disposing cause as regards the rational soul  
conditions

Perhaps evolutionary forces are "disponens" + "creating" life; "artificial" element  
Adjunct cause acts for the effect of the principal cause, not for its own proper effect. Note bonum alienum - many today after Suarez

[good] proper  
common ← alienum but truly it is: } proper { alienum - i.e. your proper good  
com. } pneum - i.e. my alienum & d.v.

Consilious - to give the end & form to the agent e.g. God gives these to all secondary agents though in God there is no deliberation. as "consilious" implies

If you remove (intellectual) universal causality from nature you have to have Kant's forms. Modern. Phil has removed intellect out of nature - esp. by taking final cause away & then you've got to put universal causes back & this is done by substituting Kant  
E.g. Socrates can't be the prox. cause of the humanity of his son - this is the universal cause. If you don't have God then you've got to put the connection in your own mind.

[Universal cause vs. logical whole - of Book V Meta Lec 21  
ref to Leibniz who made no distinction of the two whereas Kant → Hegel → Feuerbach put the univ. cause in man.

(770) To this genus of cause is reduced whatever makes something to be such & so.

(771) The fourth mode final cause - "that for the sake of which" Aristotle  
Note this changes imposition of 'finis' which is the end as of a road. Final cause is less obviously a cause because its own being comes after the being or becoming of the effect hence he especially "proves" final cause to be a cause. How can it be a cause when it is not yet,

(cf 1 Meta 4 & 2 Meta 11 (1177))  
[I, 5] "good is wider than being" ]  
final cause ↑

To ask 'why' is to ask for the final cause. And if you ask for final cause in nature you require intellect in nature, and vice versa! Thus when modern methodology seeks to explain "why" without the final cause it denies intellect in nature. Since this is ultimately impossible, leading to no more than axiomatic systems - not physics - intellect is restored to science if not to nature (there is no abstraction in the modern outlook), and this is done - perhaps can only be done - a la Kant. The intellect is supplied by man and of course never succeeds in being any more than a borrowed rational principle since it is extrinsic to nature. Thus man becomes a substitute for the universal cause - he becomes a god, the god, and the course of modern philosophy through Hegel, Feurbach, Marx, Lenin has shown what such anthropomorphism can do in the practical order as well as in the speculative.

Descartes at the start of this whole endeavor was taught a degenerate scholastic metaphysics in which 'final' cause was but a characture of the true notion. For an historical treatment of this see Fr. Hollencomp's "Causa Causarum" (Mt. St Mary Seminary, Grinnell, Ohio) wherein the course of misunderstanding is traced from Durandus a Portiano to modern times.

We don't say "final cause" merely of what is last in the operation for the intermediates may be final causes too - in that they have the nature of good.

Meta 772

note "etiam" means "both and" i.e. further divisions and various kinds of cause are not found in the same way.

"fere" helps point this out.

Sworn on Part III summa - good

(773) "Causes" said in many ways

Per accidens many things may be cause of one thing but to be per se such "causes" may be so called only if the term has many meanings. Yet this does happen i.e. an effect can have many per se causes - multiple i.e. at least several rationes (and this doesn't mean fictionally). Thus both the artist and the bronze are "causes" of the statue - but in different ways.

Note the analogical name refers to actually distinct things but which are known confusedly because of the multiplicity involved. Thus the ratio of cause is actually many ratios numerically but are 'one' analogically i.e. proportionately.

Again in same genus you can have multiple per se causes if they are ordered: proximate and remote or such that neither are sufficient alone but only as conjoined

(774) Causes may be mutually causes (adinvicem) but never  
in the same "genus" of causes (with respect to the same thing)  
e.g. pain is (eff) cause of health & health is (final) cause of pain  
e.g. labor is cause of a good disposition

(775) efficient & final are related  
 ↑  
 principle of Terminus  
 matter of Modes

material & formal are related.  
↓                  ↓  
regimes ess.      genes ess.

The efficient cause is the cause of the end but it is for the sake of the end that the cause causes. <sup>as to esse</sup> (15)

The final cause is cause of efficient cause as to causality (not to esse). (II, 5, 2)

Form is a cause of the matter insofar as it gives esse in act. Matter is cause of the form. .... it sustains form <sup>which cannot otherwise be</sup>

Both are causes of being either simply or sec'd. g'd. (776) -

Les 3

(777) Here he calls 'modes' what elsewhere he calls species e.g. in the physics because they are modes of saying "causes".

Examples of material causes, themselves differing greatly letters to syllable fire + earth to composites, parts to wholes premisses in a syllogism, through all having the one ratio of material cause - namely analogical use ratio.

seems to be four-fold [note words are sometimes the closest approach to a universal representation or analogic species]

(778) By reason of terms premisses are called material; they may also be viewed as efficient causes. But as parts the major & minor terms are material.

(779)

Formal cause - species - shape (eidos)

Several things can be united to serve as matter (3 ways)

1) e.g. soldiers in army - homogeneous parts ordered people in city form means totum

2) e.g. the way a house is one - parts are conjoined form is the composite

3) e.g. where elements are mixed - the form is the mixture as <sup>such</sup>

(780) The next kind here called genus (efficient) pcp of another & best for some universality not of predicables

(782) Final cause is first in intent. last in being in some things — as in those things which don't become. God doesn't become but he is final cause. In causality (not always in one) the final cause is prior & is the cause of the causality of the other causes.

The efficient however is the cause of the causality of the material & formal cause & their efficient cause final cause is the prior cause. (in)

The determination to an end is more perfect the natural things even though we can't always appreciate this. In moral things we do not choose the end. In art we choose the end as well as (at times) the means.

[Moral virtues are more natural than the intellectual virtues. The intellect is natural per se to humans to know ... ??]

(783) distinguish modes of cause: can distinguish causes by species and by mode

the ratio  
signified by  
the name.

The relation  
to the effect  
distinguishes

(784) Even within a species the name 'cause' is used analogously as also of the modes.

Opusc. de Calculis Operationis Naturae  
GG II, 21 GG III 65, 69-70

Universal Cause - in causatio

De Pot 3, 7, c  
De Pot 5, 1

I, 104, 1

Liber 100 Cases  
mainly about U.C.

(785)

"prior et posterior  
as said of  
cause"

"numerically ordered different causes as 1st then 2nd  
or proximate + remote"

universal (prior) + particular (posterior)  
artifex ----- (medicus) Cause of health

really, the one agent

Note: universale

in re -  
a re - in praedicando (inmensionibus)  
ad rem - in representando  
in causando

Note: esse

in Verbo  
in mente Angelorum C.G. II last ch  
in seipso

Omne agens agit sibi simile"

⌈ rational creatures are images of God  
⌋ footprints are vestiges of a man,

A higher cause is more a cause than a lower. (more) proximate cause. God is more a cause of our acts than we, though we are true causes. (degrees of univ. causality in God are distinguished formally though not really). A higher cause assimilates an effect to itself greater than a proximate. (univocal) cause even though the univocal cause produces its like in species. The universal cause causes the remote effect to be more like itself insofar as the effect can be than does the univocal cause.

"ordo naturalis"

equivocal  
name

generation  
ratio

first animal then man in embryo

(786) numerically one cause yet divided into the 1613  
 prior and posterior according as we distinguish the 2,  
 formalities universal + particularisation e.g., artisan and  
 sculptor (artifex + medicus or doctor). [efficient causes]

The same idea occurs in formal cause: number is the cause  
 of the octave (prior) and so is the diapason.  
 prox.

(787) Second division  $\left\{ \begin{array}{l} \text{per se} \\ \text{ex parte} \\ \text{causae} \end{array} \right\}$  which is the cause of horse  
 $\left\{ \begin{array}{l} \text{per accidens} \\ \text{accidental} \end{array} \right\}$

in the Physics we  
 considered only  
 one kind of  
 per accidens cause  
 ex parte effectus.

(789)  $\left\{ \begin{array}{l} \text{ex parte} \\ \text{effectus} \end{array} \right\}$   $\left\{ \begin{array}{l} \alpha \\ \beta \\ \gamma \end{array} \right\}$   $\left\{ \begin{array}{l} \text{something in} \\ \text{the effect on the whole effect} \\ \text{itself will not be intended} \\ \text{by the agent.} \end{array} \right\}$

Three divisions of per accidens cause ex parte effectus:

$\alpha$ ) with a necessary order to the effect: e.g. removing an impediment,  
 such as a block holding up a truck -- the who pull out  
 the block is the per accidens cause of the truck rolling down  
 hill.

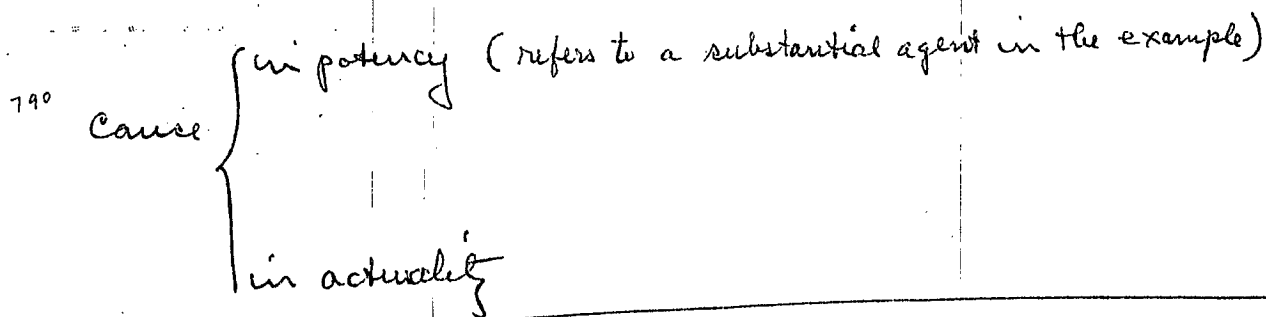
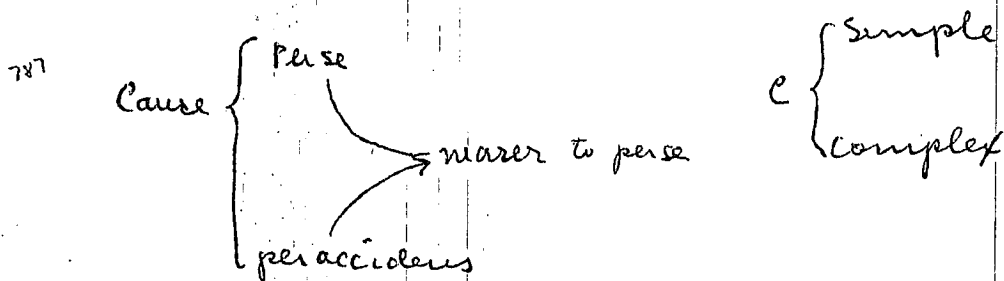
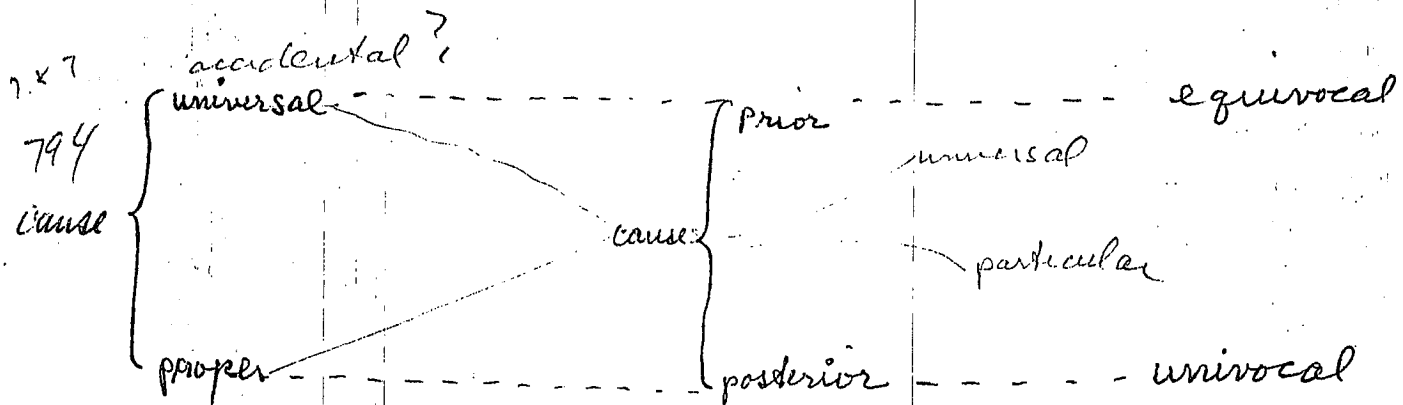
$\beta$ ) with an (non-necessary) order to the effect but in the minority  
 of instances. (chance + fortune)

$\gamma$ ) when no order to the effect (except by the mind) [I go  
 into the house + it is there is an earthquake]

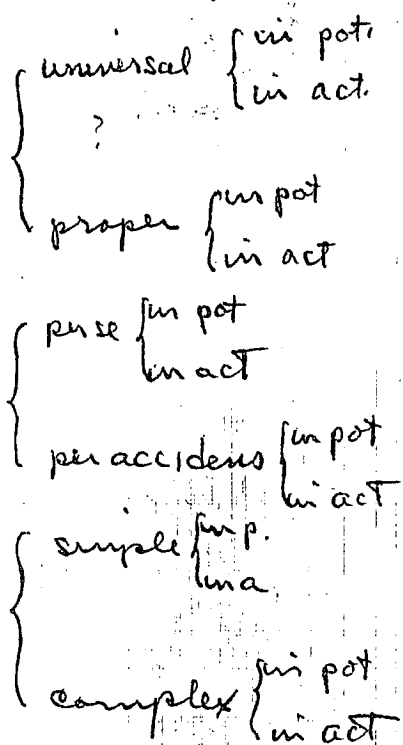
(790) A third division  $\left\{ \begin{array}{l} \text{in act} \\ \text{in pot} \end{array} \right\}$  thus  $\left\{ \begin{array}{l} \text{per accidens} \\ \text{in act} \\ \text{in pot} \end{array} \right\}$   
 E. Schrödinger: (what is life)  $\left\{ \begin{array}{l} \text{in act} \\ \text{in pot} \end{array} \right\}$   
 W. Bohr:  $\left\{ \begin{array}{l} \text{in act} \\ \text{in pot} \end{array} \right\}$   
 Max Born: The philosophy of Cause + Chance (Oxford)  $\left\{ \begin{array}{l} \text{in act} \\ \text{in pot} \end{array} \right\}$

Heisenberg: Philosophy of Physics  $\left\{ \begin{array}{l} \text{in act} \\ \text{in pot} \end{array} \right\}$   
 Bohr:  $\left\{ \begin{array}{l} \text{in act} \\ \text{in pot} \end{array} \right\}$  (rather good)





#8 in Phys II, les 6 he reduces these



causes { Primary (in a series)  
Secondary or subordinate (in a series)

however  
note:

series

proper causes → proper  
(efficient)  
universal → proper  
final

To cause  $\supset$  to exist and  $\sim$  exist  $\supset \sim$  cause

to cause in a certain way  $\supset$  to exist in a certain way

to cause a certain perfection  $\supset$  the cause has that perfection as cause  
i.e. as a "form"

Agent Cause { of becoming  
I, 104, 1c { of being - applicable to God alone

series { efficient causes  
final causes

series { per se causes (equivocal) (univocal)  
subordinated in strict sense  
accidental causes - (univocal)  
subordinated in an different sense than above.

Metaph. 787

proper = per se

### Prp's of Causality

I Every agent acts for an end [Final]

II Whatever comes to be is caused by some agent. [Efficient]