

9.3. Elements of ontology

Part II, p. 132 to 265; Contents: see p. 265

Sample 18.-- Holistic ontology : the abc theory. (132/136).

The “truth” or “revealed reality” contains data not only for the object but also for the subject. In the language of the enlightened rationalists - especially since the XVIIIth century -, these data are called “prejudices”, i.e. judgments or principles (axioms) which are already at work before our (conscious) judgments.

The theory of interpretation or “hermeneutics

This is where it comes in: the “glasses” with which we look at reality - including our own reality -, examine it, fathom it (“theoria”), creates the “color” (understand: the interpretation) among other things (and sometimes even in a decisive way) of our own reality.

The term “projection” is appropriate here: “the pot blames the kettle for seeing black”! That means: the pot, who blackens, ‘projects’ his own “blackening role” into the kettle blackened by himself. ‘Projecting’ here means: to divest one’s own reality of itself and to cause it to be drawn into another reality.-- Prejudice does that, at least in part.

A type of interpretation theory is the -originally psychiatric- doctrine concerning the ABC -structure of the (neurotic), personality,-- short: “ABC -theory of personality”.

Bibl. sample.: A.Ellis / E. Sagarin, *Nymphomania (A study of the hypersexual woman)*, Amsterdam, 1965, 137vv..

This book gives both rule (the theory that illuminates the facts) and applications (the facts of nymphomania).

As an aside, a “nymphomaniac” is a woman who is “driven” from one man to another.

Characteristics:

- a. radical lack of self-control (“If the urge arises, I must satisfy it quickly”);
- b. insatiability (“Constantly I must go to bed”);
- c. compulsiveness (“compulsiveness”: “Even if I wanted to: I can’t master it”);
- d. self-loathing (“I’m a slut then, too”).

Behold the fact.

The requested or sought: an explanation (= the necessary and sufficient conditions or - better - presuppositions, i.e. a ‘theory’ that illuminates the facts, makes them understandable, - blunts the ‘truth’ of them).

The structure (encompassing unit) of ABC theory.

These can be compressed into, a basic outline.

‘A’ is one to be processed a good news e.g.. Psychiatrically, of course, ‘A’ is some hard-to-digest fact,--i.e., a love disappointment. ‘A’ acts as a stimulus (stimulus).

'B' boils down to the set of presuppositions - idiosyncratic, straightforward, preferential and/or scientific (as Peirce sees them: EO 119) - that, inevitably, help influence the processing of the given ('A').

'C' is the final response or interpretation (interpretation),-- the final answer to the given ('A').

The scheme is a cognitive enrichment of the overly simplistic "stimulus (A) / response (C)" scheme that lacks the subject-bound middle term 'B' (the glasses through which the subject sees things).

Typology.

The authors - Ellis and Sagarin, psychologists/psychiatrists - distinguish two main types in their soul life recovery work. well in virtue of ambiguity. In particular: one and the same A (fact) can provoke a plurality of BC (presuppositions / answers).

1.-- The common sense.-

Note that the term "common sense" ("sens commun" (Fr.), "commonsense" (Eng.), "gemeiner Menschenverstand" (Dt)) means something else (i.e. All that the average representative of a community thinks).

The authors introduce the term "common sense" as follows.-- "I have, at point A, experienced something that I will never forget. E.g., a painful miscalculation. But, at point B, I say, "I can handle the painful miscalculation. It is true that I will always regret A. But I can process it,-- bear it". Consequence: at point C I live through tempered (perfectly controlled) feelings of disappointment, regret,-- annoyance. Nothing more".

2.-- The neurosis.

Or rather: the neurotic mind.-- "I have, in A, experienced something that I can never forget. In B, I say to myself : "I cannot possibly cope with -- carry such a thing: it is so terrible. Something like that makes me a worthless person". At C I lapse into fierce, unbearable 'emotions' (fits of mind),-- comma, dejection ('depression'), -- anger, hostility,-- smart-aleck ('melodrama').

Literally Ellis/ Sagarin say: "At point B, the neurotic is deluding himself".

Conclusion.-- It is not reality (the miscalculation A) alone (= necessary yet insufficient condition or incentive) but the usually ill-considered (hiding, concealed and thus 'untrue' presuppositions (B) that give rise to the neurosis (C).

The ABC theory logical.

Classically understood logic or thought theory is reasoning theory: “if ..., then ...”.

In Jevons-Lukasiewicz’s terms, the ABC structure reads as follows: “If A and B, then C. Well, C. So A and B”.

Explanation: “if A and B, then C” is the hypothesis, in platonic terms (the presuppositional reasoning); “well, C” is the determined interpretation (common sense or neurotic), the final form of behavior; “so “(in order to understand, make intelligible, ‘explain’ C) (we decide, logically, on the presuppositions) A and B”.

Rereading EO 96.-- The reasoning above is a reductive reasoning (“If A, then B. Well, B. So A”) and the inductive type of it, namely, a generalization. For “if A and B, then C” is the general (preconceived) rule or law, while the determination-and-declaration of that determination-”well, C; so A and B” is an application of it, setting out on the way to generalization.

We do say “put on the road,” because reductive or backwards reasoning is restrictive, i. e. true subject to further sampling with confirmatory value (“verification,” to speak with Karl Popper).

Another model.

Bibl. sample.: Lea Marcou, *Le goût (Une affaire d’ apprentissage)*, (Taste (A matter of learning)), in: *Que choisir/ Santé* (Paris) 1991: janv., 18/21.

Nicole says that she feels “an invincible aversion to tripe.” Further dissection - anamnesis (ED 52 (65;117)), ordered recollection - reveals that the disgust dates from “that time when, a few hours after eating it, she got sick of it.” In other words: miscalculations, no matter how small (a tripe stomach is not a tragedy now!), ‘mark’ the soul and form in the soul a ‘B’ (a presupposition, resulting from an experience).

Sociologists, psychologists show that e.g. our taste preferences and dislikes are influenced by:

- a. (psychological) our personality (of which an example will be given later),
- b. (sociological) our family,
- c. (culturological) our entire culture.

Model.-- Psychological: Monique, a young woman, says, “Always I have wished for sweetbreads, kidneys, brains. All that is the interior of a body and directly evokes the animal”. Here the ‘B’ comes from the unconscious or subconscious soul life, apparently: “always already” Or perhaps our Monique has forgotten the ‘traumatizing’ fact from e.g. her childhood.

Wrong induction.

Note Nicole's behavior,--after she got sick of tripe. From that one sample she generalizes to all possible tripe! Her, fundamentally 'irrational' (understand: logically unjustifiable) behavior, rests on induction but with neglect of its restrictive nature: that one time does not yet mean all (possible) times.

The Latins called this by a maxim: "Ab uno disce omnes" (by virtue of one case learn all cases).

Such irrational inducing happens a lot: e.g. one has had an "unpleasant experience" with a teacher once and from now on "all teachers have been there"!

Or vice versa: one has sailed with a trader once and from now on one has confidence in it without question, for all future cases. In the latter case, this is called "naive" trust. After all, it is not because a trader acts conscientiously once that he earns trust "without question" (i.e. for all subsequent cases).

Note.-- The terms "common or neurotic mind".

'Reason' means, here, "applied logic" Indeed: the mind or intellect of a non-neurotic man is precisely the same as that of a neurotic man. But the B, the presuppositions, from which both reasoning powers emanate, differ.

'Reasoning' is pure logic or thinking theory. 'Preposing' is applying thinking theory or logic.

The logic applied in projection.

EO 132.-- Nicole 'correctly projects one experience or sample into all subsequent instances! One sees that projection also involves an application of reasoning (logic)! And well a wrong generalization is at the heart of it.

The term "B" as a mindset.

One hears it regularly, "That won't sink in with her. Her mentality is different".

In 1960, the mid-century scholar Georges Duby put the term "history of mentality" into circulation,--in an article: *Histoire des mentalités*, (History of mentalities), in: Ch. Samaran, ed., *L'histoire et ses méthodes*, Paris, Pléiade, 1960, 937/966.

This is similar to things like history of ideas or drama of ideas (noting that the term "idea" here is used purely epistemologically (idea, concept) and not platonically (objective structure)).

One can, indeed, call the presuppositions (in the mind) - B - “the mentality.” The final interpretation scheme then becomes: A (the given) is interpreted (C) through the mentality (B).

B. The (secret) presuppositions : transphenomenal.

Prof de Waelhens, at the time an expert on phenomenological movements, once said that each phenomenologist gave his individual interpretation of phenomenology.

This fact proves our thesis: the given, A, becomes an interpretation C only through the ‘glasses’ of subject-bound presuppositions (traditions, established theories, mentalities of all kinds).

But this draws attention to the restrictiveness of pure phenomenology! All too hidden remain the secret presuppositions B. They are not ‘phenomena’: they do not show themselves. The eidetic and the phenomenological reductions (EO 121) are compromised as sources of truth, if it is true that the phenomenon itself is already transphenomenally “tainted” by prejudices; without the phenomenological subject realizing it. The phenomenological description of “all that shows itself immediately” is restrictively valid, i.e., subject to further, if necessary non-phenomenological contacts with reality.

Didn’t Parmenides himself already say: ‘Being is there according to itself’ (‘kath ‘heauto’)?’ (EO 03). In itself it is there according to itself but as a ‘phenomenon’ it is perhaps already perceived according to the subject instead of “according to itself”!

Note -- This explains why already the oldest Greek thinkers looked for a ‘hetairos’, colleague in thought, and why Socrates and Platon in his wake engaged in dialogue in order to arrive together at the full truth of being, the reality

This same reservation explains why a Platon wrote “aporetic” dialogues,-- dialogues that end in a not knowing: one has dialogued and one still has reservations about the result. Such is the realization that one achieves being in itself only as a phenomenon-for-a-subject and not merely and purely “in itself, according to itself.”

Ideology.

Bibl. sample.: J. Servieu, *L’ideologie*, PUF, 1982.

In the present sense, an “ideology” is a system of conceptions that governs a community in whole or in part,-- rather with the aim of subjugating a community as much as possible. This without sufficient rational grounds: that is therefore a B, glasses!

Sample 19.-- Holistic ontology: axionics. (137/142).

We begin with dates.-- Hippokrates of Chios lived -470/-400. Platon lived -427/-347.-- Well, already Hippocrates wrote a book on mathematics, *Stoicheia geometrias* (Elementa geometriae, Elements of geometry). In doing so, he and other later mathematicians anticipated the very famous Eukleides of Alexandria (-323/ -283), who also wrote *Stoicheia geometrias*.

That mathematics at that time had already adopted the axiomatic-deductive structure is evident from the fact that e.g. Platon (and later Aristotle) refers to mathematics at that time as an axiomatic-deductive science.

Platon's 'sunthesis' (deduction) e.g. is a model from the hypothetical method of those days (EO 73vv.). From preconceived notions and judgments one deduces propositions according to logically strict rules. "Mathematicians start from certain principles ('archai'), unproven propositions, which they consider obvious and irreducible and of which they therefore think they do not have to account. When they search - by the way of 'analysis' (reductive reasoning) - for the 'elements' ('stoicheia') - presupposed elements - of a given proposition, they come to a halt at these same 'principles' and look no further! (E. De Strycker, *Concise history of ancient philosophy*, Antwerp, 1967, 104).-- We now call those principles or 'elements' 'axiomata', basic propositions.

Aristotle of Stageira (-384/-322), Platon's most brilliant pupil, even formulated the structure of the axiomatic-deductive method in ready form.

E.W. Beth, *The Philosophy of Mathematics (From Parmenides to Bolzano)*, Antwerp Nijmegen, 1944, 63vv, summarizes as follows.

1.-- a. All propositions (statements) of a deductive nature apply to some area of reality.

Note.-- Beth forgets that "real objects" can be understood in a purely ontological sense, e.g., the signs of mathematics or logistics (which are purely ontological 'things', realities); later we will see reality "positive integer" according to Peano's axiomata).

b. All propositions of a deductive system are "true.

Note.-- Beth forgets that 'true' can be understood in the antique sense of "exposed reality": 'a.lethes' (revealed) is all that is exposed before the gaze, the eye, of our mind. Whether that is a fiction or a dream or the operations of mathematics or a cultural system, has no importance: reality anyway "comes bare" (apokalupsis).

a. If some proposition belongs to the axiomatic-deductive system, then some proposition that follows logically rigorously from the proposition (deduction, 'sunthesis', derived proposition also belongs to the system.

Note.-- This clearly articulates the deductive nature of such a set of propositions.

b.1. A finite number of terms (basic concepts) whose meaning needs no further explanation are prefixed.

Note.-- Just now it sounded: “unproven propositions” (EO 137).

A finite number of propositions -- postulates or axiomata -- whose “truth” (revealed reality) is evident, is presupposed.-- Now follows the complement of the dichotomy.

b.2. The meaning of all other terms can be defined using the finite number of propositional terms.-- all other propositions are deducible (= logically rigorous deduction) from the finite number of propositional propositions (axiomata, postulates).

As Beth very rightly points out: with these sentences the stoicheiosis (EO 52; 54) or factor analysis is very clearly expressed. An axiomatic-deductive text is a system, i.e. a collection of mutually independent (distinct) data which refer to each other (unseparated). Let us think of the system of letters of an alphabet.

The axiomatic induction.

‘Induction’ is first of all one or more samples from a totality (collection: specimens; system: parts).

By Aristotle saying very sharply, “a finite number of terms and an equally finite number of basic theorems, he insinuates that one chooses from a totality that exceeds that finite number.

Since ancient mathematicians, the West has discovered that one can make logical deductions from any system of propositions.

Diagram: if A, then B; well, A; therefore B - do we have a suitable instrument to check accurately (with akribeia) e.g. the reality value of the ‘B’ in the ABC structure. (EO 132) to check accurately (with akribeia). What we will now spin out further.

Supposedly, someone with the mind of God, in the traditional-Biblical sense, collects all possible prepositions, expressing, in addition to all factual ones, all possible ones. This would constitute a gigantic collection.

Well, all those who proceed axiomatically-deductively, take from that totality only a portion, “a finite number” (says Aristotle). Such a thing is only a single sample, characteristic of the inductive method.

We call this the axiomatic induction: each finite number of presuppositions - axiomata - limits itself to all that can be exposed concerning “a sphere of reality” thanks to these axiomata. The axiomata, finite in number, give a grasp of total reality, but a very limited grasp. The axiomata are the “glasses” through which a domain of reality is viewed.

Axiomatics and ABC - structure of interpretation.

The Eleate Zenon of Elea (+ -500) - according to Aristotle - recognized that both the theses of his teacher Parmenides and those of his opponents were insufficiently probative. Hence his slogan: “Neither thou, adversary, nor I, advocate” proves decisively what thou claims. Both sides had no “apodictic” but only “dialectic” (in Aristotelian language: probable) arguments in support.

Well, any axiomatics, by virtue of presupposing a finite number of axiomata, limits its bearing on the domain to which it strikes to one sample. It expresses this in a system of “true (revealing) propositions”. This system gives grasp of reality but an axiomatically limited grasp.

We saw that the ABC structure was: A as “the domain of reality”; B as “the presuppositions of the one who engages in that domain”, C as the (final) interpretation.

A finite number of axiomata amounts to the B in the ABC structure: it is the “glasses” through which an area of reality is viewed.

Conclusion.-- One axiomatic-deducent may say to another axiomatic-deducent, “thou - with thy finite number of axiomata - neither as I - with my finite number of axiomata - know all about the domain of reality.” This is the lesson that leads to modesty. And to dialogue. In dialogue, humble people, with different points of view, come together.

Applicable model.

We now give an example of axiomatics. Beforehand, however, this.

The current chapter is entitled “holistic ontology”. Indeed: the distinction “phenomenal/ transphenomenal” is also addressed here. The axiomata proposed by Giuseppe Peano (1858/1932; Italian logician, mathematician, linguist) to define the positive integer do show the phenomenon, the positive integer, but, without modification of at least one axiom, that “finite number” of axiomata remains blind to the transphenomenal domain of numbers that are not integers, positive numbers.

In terms of ABC theory: A is the area of integer positive numbers (‘phenomenon; ‘original’); B is the finite number of axiomata; C is the system of theorems that make up the axiomata. Where B and C constitute the ‘model’ that provides information about A. Or : about the positive integers Peano speaks in the terms of his axiomata and the theorems deduced from them.

Bibl. sample.:

-- W.C. Salmon, *Logic*, Englewood Cliffs, N.J., Prentice-Hall, 1963, 18/52 (Deduction);

-- A. Virieux-Reymond, *L'épistémologie*, PUF, 1966, 48/52 (La méthode axiomatique);

-- C.-I. Lewis, *La logique et la méthode mathématique*, (Logic and mathematical method.), in: *Revue de Métaphysique et de Morale* 29 (1922): 4 (oct.--dec.) 458/460.

Notice how Peano puts forward and first concepts and first judgments. Immediately the basic prepositions are given.

1.-- Harmological and logical terms.

Peano introduces: (harmologically “member of” (= “element of”); ‘class’ (logical set);-- (logically) ‘entailment’ (‘implication’: if..., then...; - which amounts to total or partial identity (EO 23vv.)) With that, there is a minimal “harmological-logical syntax”: expressions and deductions have minimal rules).

2.-- Mathematical terms and basic theorems.

This section decays into two parts.-- Purely basic mathematical terms: number, zero, and successor.

2.A.-- The type name or class “integer positive number”.

The axiomata.

a.-- (Whole positive) number is a class (logical set).

b.-- Zero - 0 - is one member of that class.

c.-- If a is a number (= member of the class), then a+, the successor of a, is also a number.-- Thus e.g. : $0 + = 1$; $1 + = 2$.

d.-- If s is a class of which 0 (the zero) is a member and if every member (“right one”) within the class s has a successor, then every number (“all numbers”) is a member of s .

One calls such an axiom “mathematical induction”. Indeed: each member of the class “integer positive numbers” is precisely one sample that can be generalized to all possible samples.

e.-- If a and b are numbers and if the successor of a is identical with the successor of b , then a is identical with b .

In other words, two different numbers cannot possibly, by axiomatic definition, have the same successor.

f.-- Every number has a successor that differs from 0 (zero).

This restricts the set of numbers to 0 and all successors in the wake of 0. Which is only possible for positive numbers.

2.B.-- The operations within the class.

We note that by now three basic concepts are regularly used of a mathematical nature. In particular: number, zero (0) and successor of number ($0+$, $1+$, $2+$, etc.). These ‘expressions’ belong to the logical syntax.

a.-- sum.-- If a is a number, then $a + 0 = a$.

b.-- sum.-- If a and b are numbers, then $a + b+ = (a + b)+$. M. a. : $a +$ the successor of b is equal to the successor of $a + b$.

c.-- multiplication (product).-- If a is a number, then $a \times 0 = 0$.

d.-- multiplication.-- If a and b are numbers, then $a \times b+$ (the successor of b) = $(a \times b) + a$.-- One can also write: $a \times (b + 1) = (a \times b) + a$.-- For example, $3 \times (4 + 1) = (3 \times 4) + 3$ (which gives 15 in two ways).

Axiomatics is concept definition.

Reread EO 08 (Content/ size of a concept).-- The smaller the content, the larger the size.-- We see this from axiom 2.A.f : drop this axiom - i.e. reduce the content - and you will see that the size, provided new axiomata, increases. For example, $-1+$ (the successor of -1) can be introduced which has as its successor 0.

In other words: the negative integers come into view (become ‘phenomena’). Which is a huge expansion of the scope or area of reality. Through this new finite number of axiomata, our mind now ‘sees’ things that lie outside the area of positive numbers. To which, before, it was ‘blind’.

Stoicheiosis (factor analysis).

In ancient language, the terms and axiomata above are called “ta stoicheia,” the elements, or still “hai archai,” the postulates (“principles”) of the whole positive number. See EO 01, 31, 67).

Note.-- Virieux-Reymond emphasizes a few traits of axiomatics.--

a.1.-- System Character.

The basic concepts and basic judgments, which are independent of each other (= distinguishable), form a coherence in such a way that one or more of them also precedes all the others (= complement).

a.2.-- Consistency (logical contradiction).

The system has no contradictions concerning concepts and propositions (both the axiomata and the derived, deduced propositions). Otherwise, there is no system.

b.1.-- Completeness.

If of two propositions that are flawlessly expressed according to the system, one is provable, then there is ‘completeness’.

b.2.-- Decidability.-- If the system is both consistent and complete, then of two contrary propositions there is one and only one that is provable. In that case the system is called ‘decidable’.

Although these basic features of axiomatics are not useful here, it is good to note these concepts: they clarify the thoroughly logical character.

Axiomatics and science.

One speaks of “axiomatic-deductive sciences” and “other sciences”. Good. But pay attention: whether a scientist explicitly or mostly non-explicitly mentions the axiomatics of his subject does not fundamentally matter. For axiomatically-deductively he proceeds in any case.

1. As Aristotle (EO 137) noted: every science has a certain area of total reality as its object (so do axiomata).

2. In principle, all propositions of a science are true (revelation of reality) (whatever an abductive system exhibits).

3. A finite number of basic concepts and basic judgments (axiomata) every science possesses (= deductive system).

4. Every science exhibits propositions derived from basic concepts and judgments according to logically rigorous rules (= deductive system).

Conclusion.-- Whether he likes it or not: the scientist, in the strict sense, proceeds axiomatically deductively. If he does not, his text has gaps and even contradictions (i.e., he is not scientific).

Sample 20.-- Holistic ontology: the fellow human being. (143/

‘Holistic’ means “All that concerns the whole (the totality: collection and/or system)”.

In an ontological sense, “All that concerns the whole of reality (“being”)” (EO 116). Ontology is essentially ‘holistics’, theory concerning the whole of reality. ‘Panta’, all being (all that is anything),--”All that was, is, will be”: behold that which concerns the ontologist, as ontologist.

‘Inductive’

‘Inductive’ means “all that seeks to know that same whole reality thanks to samples from a reality” (EO 93). A collection is known thanks to at least one instance (sample); a system is known thanks to at least one component (subsystem) (sample).

To decide from at least one specimen (‘element’) to the whole set is called “generalizing induction”; to decide from at least one part or subsystem to the whole system or system is called “generalizing induction” (one tries to gain insight into the whole system by advancing from a part to the ‘whole’ system). This we saw as the two types of “stoicheiosis. (EO 94/95).

EO 120/125.

The phenomenologist’s step into (general and/or overall) reality is very limited: his “sample” is “All that is phenomenon (direct, immediate given).

EO 126/131.

The step into the transphenomenal involves samples that are not immediately observable data, realities.

As an aside: just as the phenomenologist so does the transphenomenologist! Whether one tests technically, physically, logically, transempirically (Hans Reichenbach), one reaches only samples of total being(s). What is the reason for that? It is because of the structure of our knowing.

We checked this structure in two steps.

The ABC theory of observation (i.e., grasping reality) teaches us that of reality (A), because we start from premises (B), we obtain only a sampling insight (C). Nothing more.

2.-- 137/ 142.-- The axiomatic ontology teaches us that any finite number of axiomata (note the B of axiomata) grants access only to an equally finite domain of reality. As a model we gave Peano’s axiomatics concerning the integer positive number (the domain).

In other words, reality only becomes a ‘phenomenon’, i.e. accessible to our mind, insofar as the same mind carries within it the corresponding premises (axioms) - called B.

Or still: of A, the brutal, unprocessed reality, we understand, in the light of some very small number of axiomata, B, merely “the domain” that becomes “phenomenon” thanks to those same “axiomata. Which we have explained EO 137 - on the basis of Aristotle’s conception of axiomatic-deductive thought. What is exposed in C, i.e. that which we say about A, the unprocessed reality, is not simply A, but A as far as seen, ‘exposed’ (a.letheia, apokalupsis), thanks to B, the presuppositions.

Conclusion.-- C, i.e., what we utter in terms of true sentences, amounts to a sample every time. The rest of A, the overall reality is transphenomenal, situated beyond the limits of our mind’s eye.

Let us now turn to the presuppositions or axiomata that determine our knowledge of the fellow human being - called by phenomenologists “alter ego,” “the other self.”

Technically expressed: A is now the fellow human being as he/she is in itself, unprocessed. B is the small number of presuppositions that give us access to (the true sentences about) the fellow human being (who is thus “the domain” of our gaze). C is then what we say about A, seen through B.

A.-- *The look of the mean mind. (144/147)*

Bibl. sample.: Ch. Lahr, *Cours de philosophie, I, Psychologie*, Paris, 1933-27, 488/490, 230 (Bon sens),-- 230, 641, 710 (Sens commun).

Please note, with Ch. Lahr, that the terms “common sense” and “common sense” do not cover the same meaning.

“Common sense” is e.g. “the mind of man insofar as it makes an unclouded judgment about something”. “Common(er) reason” is e.g. “the reason of some group insofar as it arrives at a small number of propositions about some reality accepted by the great majority of that group.”

Common sense is a matter of epistemology (theory of knowledge). Common sense is a sociological or community learning phenomenon.

‘Commonsensism’.

Let us summarize the essentials concerning the philosophy of common sense.

It starts with Claude Buffier, S.J. (1661/1737; *Traité des premières vérités*, Paris, 1717). In it, this French Jesuit corrects what he considers to be the too narrow position of R. Descartes (1596/1650; *Discours de la method* (1637), among others). - As a modern rationalist, Descartes started from “le sens intime” (that which each of us perceives internally). This purely inner perception had all the difficulty in the world to ‘prove’ e.g. the existence of “the outer world” (in which the fellow human being or “the alter ego” is situated of course) (i.e. to make it rationally, i.e. scientifically irrefutable, true from the sens intime (or purely on the inner life of the soul).

For the modern-rationalist thinker, we are all, each and every one of us, radically locked into our inner little world or “subjective consciousness.” That is why Cl. Buffier adds to that “sens intime” what he calls “le sens commun” or “common perception”. Thus he arrives at “vérités premières”: basic truths (axiomata) which, in addition to “le sens intime; also come from “le sens commun”.

One of these axiomata, peculiar to the common mind, is : apart from our inner-conscious world, there exists an extramental world or ‘outer world’. In this external world there are fellow human beings. Co-workers e.g. “with authority” (the authority argument - EO 115 - stands or falls with such presuppositions).

The “commonsense philosophy” in the stricter sense begins in Scotland - hence “Scottish philosophy” - with Thomas Reid (1710/1796) and his *An Inquiry into the Human Mind on the Principles of Common Sense* (1761). Follow in his footsteps: J. Beattie, D. Stewart, Th. Brown, J. Macintosh and others.

They elaborate on the basic intuitions of Cl. Buffier. Emphasize, among other things, that “the common sense”, the common sense, is latent or explicit in all human beings.

In other words: common sense would, according to them, be a universal property. At least where common sense prevails over deviant forms of thought.

But beware: the Scots are not naive! In what passes as a “universal mindset,” the commons thinkers distinguish two layers.

a. A truly universal section

(e.g., the belief that an outside world really exists, to a very high degree independent of ourselves, e.g., that each of us, if sufficiently normal, has a dose of freedom).

As *an aside*, this universal or quasi-universal part also appears in ancient Greek rhetoric under the name ‘eikos’. ‘Eikos’, literally, “what is similar”, means, in that context, “all that, to the great mass of men, seems ‘obvious’”.

b. A private section.

As an example, Lahr gives the view, until before Copernicus (1473/1543; founder of heliocentrism) and others, that the sun revolves around the earth. Something that - purely phenomenologically (phenomenologically) - is correct! But which is based on optical illusion, because - on closer inspection, i.e. starting from another small number of axiomata (called ‘heliocentrism’) - it turns out that we, standing on the earth, are the ones who rotate!

Scientifically speaking, then, “common sense” includes a number of unconsidered, unexamined, untested insights or impressions, which can be branded as “prejudices. An attempt has been made to draw up a kind of list of “vérités premières” of basic insights proper to common sense.

Go into that very briefly.-- Among the fundamental truths one counts:

(i) mental facts or realities: acts like “I hope Mieke comes” (hoping is such a soul act); states like “When he is in the house, I don’t feel so well” (not feeling so well is such a mental or soul state);

Further: the reality of the ‘I’ which, through all deeds and/or states, remains identical (one also says ‘substantial’); “After all, I am the same as I was twenty years ago, although I have changed a lot”;

Further still: the reality of the sufficiently clearly observed (“We saw, in the vicinity of Liege, very actually flying saucers”) or of the sufficiently clearly remembered “It is as if I experienced it only yesterday”);

So too e.g. “Green color differs from lilac” (if sufficiently clearly perceived and remembered) or “Two plus three is five” (after sufficiently clear teaching);

(ii) extramental realities: fellow human beings; yes, their soul life insofar as this “inner life” shines through in a sufficiently clear manner throughout their outwardly observable behavior: “He saw white with anger!”

Conclusion. - The step from inner perception, Descartes style, to “common” experience, Buffier or Reid style, means an increase in contact with the totality of reality. For Descartes’ postulates, the common experience is transphenomenal.

Not surprisingly, so much energy was spent trying to “prove,” in a “rational” way, the existence of an outside world or the existence of another self (“alter ego”).

In other words: the so-called ‘outside world’ and, immediately, in its own way, every fellow human being are for the narrow, in its own ‘autism’ and enclosed consciousness not immediately given realities. They are indirect, i.e. via a very sophisticated reasoning mechanism!

Whenever the average person hears that so-called scholars struggle to make the actual existence of the world around us ‘true’ (revealed) through shrewd reasoning, they shake their heads pityingly. After all, they start from the common consciousness of reality.

Note.-- What logical-epistemological value can then still be attached to the “proofs” of the critical-rationalists concerning the outside world and fellow men? For this we refer to E.W. Beth, *De wijsbegeerte der wiskunde (Van Parmenides tot Bolzano)*, (The Philosophy of Mathematics (From Parmenides to Bolzano)), Antwerp/ Nijmegen, 1944, 78/92 (Eristiek en sepsis).

From Zenon of Elea (+ -500) over Gorgias of Leontinoi (-480/-375; one of the greatest protosophists) to the school of megarics (Eukleides of Megare and Euboulides of Miletos) one sees the emergence and development of what is called “eristics.

“Eris” means “contention (conversation). -- “Hè eristike technè” therefore means “the skill concerning the conduct of discussions.” Platon bulks up the term Soph. 231e (Sph. 225c) e.g..

Beth speaks of “hair-splitting” (o.c., 79), which on the one hand have caused “bad blood” among many, but on the other hand sometimes cover a profound logical-epistemological basis. In other words, even if the concern to “prove” the real existence of the outside world and of our fellow men comes across as bizarre, one should not simply dismiss such reasoning: many errors of thought are exposed when one follows eristicians closely. It is sometimes an ideal way of learning to think ‘critically’, even about the most obvious ‘truths’ of everyone’s everyday life.

B.-- The indirect (mediatism) and the direct (immediatism) method. (148/152)

Bibl. sample.:

-- Ch. Lahr, *Logique*, 547 (*L'esprit de finesse et l'esprit de géométrie*;-- ((The spirit of finesse and the spirit of geometry; --), id., *Psychologie*, 113/119 (*Le médiatisme*), 119/124 (*L'immediatisme*);

-- I.M. Bochenski, *Philosophical methods in modern science*, Utr./Antwerp, 1961, 25/26 (Classification).

Note.-- Lahr, as a Frenchman, nods to Blaise Pascal (1623/1662; *De l'esprit géométrique* (1654)).

1. The perceptual acuity - la finesse.

perceives data - reality - "d'une seule vue", at once. - If that which is 'suddenly' grasped as given reality, comes across as too uncertain, then keen perception, la finesse, sticks to the probable(st), i.e. to approximate intuitions (perceptions). In the latter case, the 'perception' ferments, assumes,-- guessing if necessary! In other words: hypotheses -- guessing statements -- spring from "la finesse".

As *an aside*, this is strikingly similar to what Ch. S. Peirce calls "abduction" (hypothesis conjecture).

2. The reasoning mind - "l'esprit géométrique"

however, amounts to "rational thinking" that is exposed in those things. 'Deducing' is typical -- according to Lahr -- of the 'geometric' mind. The principle of sufficient reason or ground plays a leading role here.-- Compare with Platon's 'synthesis' (deduction) and 'analysis' (reduction), both of which also presuppose a necessary and sufficient reason.

Conclusion.-- Sharp perception is a direct grasping of reality, while the reasoning mind is an indirect grasping of a (suspected) reality which one, through reasoning, comes to a full stop.

Note.-- Following in Pascal's footsteps, Lahr argues that only both forms of knowing together constitute "real knowing."

Father Bochenski's opinion.

Instead of "finesse" and "géométrie," Bochenski speaks of "direct" and "indirect" knowing.

(A)-- Direct knowledge. (148/149).

According to Bochenski, directness shows itself in two aspects.-- Direct knowledge - e.g., Husserlian phenomenology (EO 120/125) - is always "mental contemplation." Versta: our mind "beholds" (intuitively) the grasped reality. Thus when I see a hare running. I grasp, with my mind, immediately ('directly'), without intermediate (which would be 'mediate'), the hare in its run. Immediately the concept of a hare running arises in my mind.

Note.-- The phenomenology of Edm. Husserl (and in his footsteps of all that is called “phenomenologist”) stands or falls with at least one direct relation between knowing subject and known object, namely intentionality.

‘Intentionality’ means that each of us is “directed to the world” in which we situate ourselves. ‘World’ means “the totality of all possible objects of our knowing, which are obviously situated within that one world to which our consciousness is directed. If that world were not given to us immediately - directly, without intervening terms - we would be “spinning around in our own subjective little world” when we would see a hare running, we would only “perceive” some kind of mental product that resembles or is related to the hare running and not the objective hare independent of our mental life.

As an aside, do not confuse the general ‘intentionality’ or ‘directedness’ of every conscious act of our lives with the very specific ‘intention’ or ‘intent’ (‘intendedness’) peculiar to our wills! The latter are only one kind of ‘intentionality’ of the conscious life.

The first aspect of direct or immediate perception is the beholding (= direct grasping) of our mind (“spiritual beholding”).

The second aspect, according to Father Bochensky, is the rendering in the form of a description (which may take the form of a story when it comes to diachronic phenomena or those passing through time) of the spiritual experience.

Note -- Such a representation or description can, if need be, take the form of what is now called ‘model building’: whether or not via a computer, one ‘reproduces’ as exactly as possible what one ‘beholds’ (‘sees’, ‘grasps’) with the mind. Think of the map of a geographer who ‘renders’ (‘describes’) on paper what he mentally beholds, namely a natural and/or cultural landscape. The map is, in that case, a model (which provides information about the original). Think of a signpost: it shows what a connoisseur of the landscape has observed about the way to follow in a landscape. If the map was a model of similarity (metaphorical), the signpost is a model of cohesion (metonymical).

One can also say that the map is a metaphorical sign and the signpost is a metonymical sign that the spiritual beholder uses to represent the beheld.

(B).-- Indirect knowledge. (15/152)

Bochenski counts among the indirect or mediate ('mediate') forms of knowing the classical forms of reasoning. In these he distinguishes two main types. Following in the footsteps of William Stanley Jevons (1835/1882; *The Principles of Science* (1874), a treatise on logic) and especially Jan Lukasiewicz (1878/1956; *Aristotle Syllogistic* (1951)), he formulates the two main types of indirect knowledge of the world in which we, intentionally, situate ourselves as follows.

Deduction.

If A, then B (= hypothesis). Well, A; therefore B (= derivation).

This is the structure of Platon's 'sunthesis': from the (ontologically intelligible) reality of the hypothesis "if A (presupposition), then B (derivation)", and from the reality of A (presupposition), one deduces the reality of B (derivation). And this with necessity (modality).

Reduction.

If A, then B (= hypothesis). Well, B; therefore A (= derivation).

This is the structure of the platonic "analysis": from the reality of the hypothesis "if A (presupposition), then B (derivation)" and from the reality of B (derivation -), one deduces the possible reality of A (presupposition). Here the modality is "non - necessity".

As an aside, the inductive method is a curious case of reduction. Cfr EO 63; 37; 73.

Note (150/152) Father Bochenski counts among indirect knowledge also semiotics. - By this he means the analysis of language.

In fact, the pedestal on which he bases this chapter in his solid work is broader than what the average person understands by 'language'! He refers among other things to Charles Morris (1901/1971), *Foundations of the Theory of Signs*, Chicago Univ. Press, 1938,--a work that has become a 'classic'.

Morris himself ties in with Ch. S. Peirce and his famous theory of signs or semiotics (a reference: H. Van Driel, ed., *The semiotic pragmatism of Charles S. Peirce*, Amsterdam, J. Benjamins, 1991).

Well, Peirce saw his theory of signs as extremely broad, -- ontologically broad even. Peirce saw the whole 'being(s)' or reality as through and through sign reality: everything refers to everything!

Note.-- Bochenski omits Ferd. de Saussure, *Cours de linguistique générale*, Paris, 1916-1, which gives us a semiology (which comprises the core of Saussurian structuralism). This too is a type of sign theory!

Appl. model.

Morris, following in the footsteps of the Wiener Kreis (logical or language positivism; EO 126) and of American pragmatism, resp. pragmaticism, developed, for the first time, clearly three aspects of each sign. In particular: the syntactic (the concatenation of signs) the semantic (the meaning of signs) and the pragmatic (the use value of signs).-- We explain briefly.

a.-- Syntactics.

The study of the interrelationships of characters.

Model.-- In church circles was, at the time, known the often bizarre and humorous West Flemish priest Van Haecke. A college of his was called “Faict. One day he combined (EO 46: combinatorics) the ‘elements’ - letters - of ‘Faict’ into the following Latin sentence: “Faict ficta facit” (translated: Faict makes imaginary things).

Such a “stoicheiosis” or combination is a pure case of syntax. It consists in varying the configuration of the name elements.

b.-- Semantics.

Signs in one configuration or another can mean something, i.e. refer to something on the basis of resemblance and/or coherence.-- Within our world, in which we situate ourselves - intentionally - (we can also say, with the Germans, ‘Sitz im Leben’), we no longer focus our attention or ‘intentio(nality)’, semantically, on the mutual relations of the signs, but on the relation between the signs and what is meant or indicated by them. This is then a reality outside the sign.

Coincidentally, the phrase has a (semantic) meaning: the fellow priest Faict “pulls out imaginary things:

c.-- Pragmatics.

Signs, put together in a configuration, not only have a meaning which ‘hits’ things outside these signs, they also have a use value. Within the world in which we situate ourselves intentionally, we use the things - including the signs - with a view to achieving a goal that also lies outside these things (signs). That is then the object of the study of the relation between the user of signs and the signs themselves.

Consider e.g. that a sign is employed by someone as a signal to someone (the sign is used to give a sign to others to e.g. establish rapport;--which is the domain of the signfica (rapport theory)).

What utility did Van Haecke attach to his playful phrase? Did he want to ridicule Faict? Or did he just want to play with letters in response to the name ‘Faict’? The ‘pragmatics’ are sometimes difficult to determine.

What utility did Van Haecke attach to his playful phrase? Did he want to ridicule Faict? Or did he just want to play with letters in response to the name 'Faict'? The 'pragmatics' are sometimes difficult to determine.

Conclusion.-- In what sense precisely is semantics (semiology) an indirect knowledge? To the extent that, through signs, we come to know other realities.-- Thus "Faict ficta facit":

a. we do not learn much about Faict himself (but his existence for example) (semantically);

b. concerning the man Van Haecke himself - the fellow man (signifique) - we learn that, knowing Latin, he took pleasure in playing with letters,--that he probably wanted to ironize his lecture (pragmatic).

In other words, to the extent that signs provide us with information (are models) about the realities indicated (semantically) or intended (pragmatically) by them, to that extent they are indirect knowledge.-- This is particularly useful in rhetoric.

Note.-- Very early, in Greek philosophy, people caught the sign as indirect knowledge.

Alkmaion (=Alkmeon) of Kroton (-520/-450), an ancient Greek physician, influenced by paleopythagoreism among others, says: "Only through 'tekmeria', signs or symptoms, of the hidden can we deduce that hidden." Indeed, even today a doctor is constantly confronted with symptoms of an illness so that he knows the illness only through its 'signs'.

Alkmaion emphasizes a duality.-- There is "aisthanesthai," direct perception, and there is "xuni.ēnai," indirect knowledge. The latter is called "interpreting signs." As a physician, Alkmaion was a 'semeiologist' (i.e., medical interpreter of disease symptoms).

He even saw a ranking:

a. animals possess direct perception, but not interpretive abilities; humans possess the two;

b. deities, however, see everything directly and with absolute certainty. The latter shows what high conception antiquities had of the deity. Cfr EO 03 (apokalupsis).

Note.-- One knows the dichotomy in mathematics:

a. the given (which we grasp by direct knowledge);

b. the demanded (which we grasp only through reasoning). One can say: the given is 'sign' referring to the asked, otherwise there would never be 'asked'!

C.-- Do we know our fellow man directly and/or indirectly? (153/155)

Given: the direct method and the indirect method.

Asked: what knowledge do we have concerning our fellow man? Precise we:

a. Does immediatism, i.e. immediate knowledge, apply?

b. does mediatism apply? In other words, is the other "I" (subject, soul) given to us immediately (immediacy, without intervening terms) or is the other "I" only accessible to us through reasoning and/or signs (mediacy, with intervening terms)?

By way of introduction.

Bibl. sample.:

-- St. Englehardt, *Monde virtuel (Entrez dans l'image)*, (Virtual world (Enter the image),), in: Reader's Digest/ Sélection (Zurich) 46 (1994): févr., 122/127;

--- D. Jeanmonod, *Des robots commandés par les mondes virtuels*, (Robots controlled by virtual worlds,), in: *Journal de Genève/ Gazette de Lausanne* 17.02.1994.

One places a computer helmet on one's head, slips the right hand into a silver computer glove. What does one live through? A world - consisting of simulation - or imitation images - conjured up for you by ordinator.

Two small TV screens (3D (= three-dimensional)), embedded in the visor (eye screen) of the computer helmet, for the eyes - each slightly different to obtain the 3D effect - to see a scene. Not as it happens in the 'three-dimensional' movie theaters! Because one can, among other things, 'touch' (via computer) the virtual objects seen - things, fellow human beings, landscapes. By means of a 'tactile' glove.

The opinion of Gary Bishop, Prof of Computer Science University of Northern Carolina: "The limits of imagination are the only limits of technology (regarding virtual realities).

The purpose of virtual reality is to give the viewer the illusion that the world simulated by the ordinator is 'real'."

Note: the applications are quasi-infinite. In medicine and engineering, in the military and in space travel. But also in the entertainment industry (the porn world included).

So: at the Battle Tech Center, a park for "virtual" pastime in Chicago, lines of people are waiting to, for a good three hundred Belgian francs; "visit a distant planet, experience a battle with laser weapons, fight a blind giant.

The question is: how do we know that a virtual world is only a virtual world and how do we know that John next door is non-virtual?

The answer exhibits two major types.

a. The common sense - the non-intellectual (let's say) - says, "Surely this is obvious! One has only to watch!"

b. The skeptical-eristic mind says, "How does one know that,--yes, how does one prove that it is so obvious?" Modern and postmodern humanity easily thinks this way.

The position of the Austrian school.

Bibl. sample.: H. Arvon, *La philosophie allemande*, Paris, 1970, 133ss. (L' école autrichienne).

a. B. Bolzano (1781/1848), known for his struggle against psychologism concerning logical entities (concepts, judgments, reasoning) is a predecessor.

b. Franz Brentano (1838/1917), known among other things for his *Psychologie vom empirischen Standpunkt* (Psychology from the empirical point of view), (1874), is the founder.

His psychology did not want a causal explanation of psychic phenomena (as e.g. some positivists wanted), but the description of the psychic phenomena as phenomena. That is: insofar as they are immediately given. Immediate.

Soulful phenomena.

What does Brentano understand by this?

a. There are "physical phenomena" around us, such as e.g. colors, people, landscapes.

b. However, there are "soul phenomena": 'acts'. Thus e.g. the act in which I form the image of a walking man. Further: hearing, seeing,--remembering, judging and reasoning,--experiences such as joy or sorrow.

'Intentionality'.

Now what is the essential nature of a psychic act? That by which it differs from non-psychic phenomena.

Here Brentano restores the mid-century scholasticism (800/1450) with its concept of 'intentio'. 'Intentio' can be translated by 'directedness (of consciousness)'. The mid-century thinkers distinguished, in doing so, two types.

a. "Intentio prima", first orientation.-- When I am simply absorbed in the (outer) world, my consciousness is in a first, obvious orientation. On things, on my nearest and dearest, for instance.

b. "Intentio secunda", second orientation. When I am paying attention to something, the orientation or intentionality of my consciousness is "second degree", because I am focusing on my (first) orientation.

This intuition was further developed by others (Al. Neinong (1853/1927), C. Stumpf (1848/1936), especially by the famous Edmund Husserl (1859/1938)).

“Mutual intentionality.

Based on Brentano’s psychology of intentional acts, we can articulate the problem of (the reality of) the fellow human being as follows: “I pay attention that my fellow human being pays attention to me.”

Second-degree : “I pay attention that I pay attention that the other pays attention to me”. Or still: “I pay attention that the other pays attention that he/she pays attention to me”. Finally, “I pay attention that I pay attention that the other pays attention that he/she pays attention to me.” -- It looks like a play on words but it is not a play on words: that is how life is.

Such a thing is unthinkable in virtual reality, unless one is carried away for a while by the illusion - according to Gary Bishop, professor of computer science - that the purely ‘virtual’ (meaning: reality conjured up by computer images) reality (ontologically this is one type of reality, of course, however illusory) is ‘real’ reality, i.e. reality which takes place outside the computer images.

The blind giant in the virtual games does not pay attention to me;-- he does not pay attention to me either! And I;-- I pay attention to what that image-founded ‘giant’ gives me in terms of ‘attacks’ or ‘defenses’ to deal with. Nothing more!

The man of common sense finds this no problem: a virtual giant is not a giant outside the virtual. The skeptical-eristic man, on the other hand, takes pleasure in figuring out how precisely we notice the difference between purely virtual reality and real reality.

In other words: as always, the postulates or axiomata of the common man and the skeptical-eristic man are different axiomata. In ABC theoretical terms: the “B” of the common man and the “B” of the skeptical-eristic man differ. Immediately the domain on which those axiomata issue differs.

Mediaat/ immediaat.

a. It is certain that we know our fellow men by indirect means - so valued by skeptical-eristic people. Think of the behaviorists and pavlovism, who observe - sometimes exclusively - (external) behavior. This then becomes rock-hard science.

b. But all this would make no sense if we did not perceive each other immediately, “from soul to seeing,” from “I” to “me. This then is a kind of - not so rock-hard - scientific-intuitionism. But it is as good as ubiquitous between people.

Sample 21.-- Holistic ontology: formalism (formalization) (156/167).

Bibl. sample.: I.M. Bochenski, *Philosophical methods in modern science*, Utr./Antwerp, 1961, 51/55 (Formalism).

“One of the most important results of modern methodology (= applied logic) is the insight that an operating with the language on a syntactic level can substantially facilitate the thinking activity. Such an ‘operating’ is called ‘formalism’! (O.c., 51).

Ontologically speaking, formalized operating is directing the attention of consciousness to writing characters in such a way that they are logically edited. ‘To operate’, then, is to ‘perform operations’. And that is: logical operations.

The being thus “processed” is not nothing but something, namely signs.

Illogically, this shows that our mental life can empathize with a “world” or “universe” (as some also say) of mere signs,-- with any semantic or pragmatic sense of meaning put in parentheses.

The semiotic presupposition: (156/157).

We now examine some axiomata of formalization.

The graphic premise.

With Ch. S. Peirce we can distinguish thinking signs (= concepts), speaking signs and also writing signs.

The formalist “swears by the written” says Bochenski. Phenomenologically one can speak of “graphic reduction”: the formalizer reduces (confines himself to)! His consciousness “pays attention only to” what makes paper black.-- In Peano’s language “pasiography”.

Bibl. sample.: J. Ritter, *Le sources du nombre (Entre le Nil et l’ Euphrate)*, (The source of the number (Between the Nile and the Euphrates)), in: *Le Courier de l’unesco* 1989: nov., 12/17.

Ritter, author of *Eléments d’ histoire des sciences*, (Elements of history of science) Paris, 1989, among others, writes: “Mathematics is closely related to graphical skill (...). Have not recent archaeological discoveries shown that a great many writing systems arose from the necessity of measuring, distributing and sharing wealth?”

He recognizes two graphical systems:

- a. -3,500 in Lower Mesopotamia; somewhat later in Soesa (present-day Iran);
- b. -3,250 in Egypt.

Indeed, arithmetic is one application of formalized proceeding.

I.a. the semiotic presupposition.

Second axiom concerning semiotics in formalism is a “syntactic reduction”: the formalist reduces the sign - graphism - to a single dimension, i.e. syntax. Cfr EO 151.

The semantic and pragmatic dimension are ‘put between brackets’ (‘eingeklammert’). Only the mutual relations of the sign parts or of the signs are valid, while every reference of the signs to something outside the signs themselves (semantics) or the use by the user with a view to achieving results (pragmatics) is banned.

This produces a sentence-reduced sign: the three-part sentence: syntactic sentence, semantic sentence, pragmatic sentence is truncated to the first.

I.b.-- The combinatorial premise. (157/159).

Please reread EO 46.-- The fact that only syntax is valid implies that combining is among the operations.-- ‘Combining’ is pairwise assignment of elements -- here: graphisms -- a place within a ‘configuration’ or place system.

In other words:

- a. there are a finite number of places;
- b. there are a (finite) number of data to place.

This means harmology or theory of order. In the wake of the ancient Greek stoicheiosis or factor analysis.

As an aside: the strongest form of this, logically speaking, is called “mathesis universalis”, general ‘mathematics’ (understand : combinatorics).

Galenos of Pergamon (second century AD), the famous physician, wanted to work out a kind of mathesis universalis of all that was known at the time.

Ramon Lull (= Lullus) (1235/ 1315), the Catalan Neoplatonist known for his ecumenism, wanted to found an Ars magna, literally “encompassing professional science,” which combined all the sciences of the day.

Finally, G.W. Leibniz (1646/1716; Cartesian) makes this into De arte combinatorics, a work that, in a sense, anticipates today’s formalized logic or logics.

By the way: already R. Descartes had a mathesis universalis in mind and, after the rationalists, the German idealists (Fichte, Schelling Hegel) tried something like a mathematics-free mathesis universalis,--under more romantic influences.

As an aside, H. Burkhardt, *Logik and Semiotik in de Philosophie von Leibniz*, (Logic and semiotics in the philosophy of Leibniz), Munich, 1980, esp. chapters 3 and 4, shows how the tradition of Lull’s Ars magna is thoroughly refounded in Leibniz into a ‘calculus’, an arithmetic.

The combinatorial premise.

Syntax involves 'connect'. Connect involves 'connectiva', connectors (functors, modifiers). Let us say; connective signs. They are the expression of relations between grafisms.-- We dwell on the main ones.

(1) The looping or reflexive "relationship"

Logicians usually neglect this type of "relation" of something to itself.

Appl. mod. "Singing as singing", "singing as far as singing", "singing as such", "singing as such" mean that singing is thought of as something in itself, without reference to anything else.

The word "as (therefore-or-such)" means the total identity of something with itself. Cfr. EO 25 (Law of Singularity),-- 23vv.-- In the very abstract form "x as x".

(2) The non - reflexive relations.

Cfr EO 23: partial identity. Or 'analogy'. The relations of something to something else.

(2).1.-- The combinatorial sum.

Singing and/or dancing involves either singing or dancing or practicing both simultaneously. The "or" signifies the alternation or alternation; the "and" the simultaneity.

Abstract : $x + y$.-- Other name: the disjugate.

One also writes $x \vee y$ (as x and y and xy).

In Lukasiewicz's language play: Dxy.

Matter of agreement.-- The sign 'v' is called 'disjunctive'.

(2).2.-- The combinatorial product.

Singing and dancing - singing-and-dancing - involves practicing the two in one,-- simultaneously.

Abstract : xy .-- Other name: conjugate. Using as conjunctive ' ^ ' gives " $x \wedge y$ " (x and y at the same time).

In Lukasiewicz's language system: Axy (= x-and-y).

(2).3.-- The ordinary negation.

Cfr ED 20 (Categorical nothingness).

Instead of singing and or dancing one can also do nothing.-- Semiotic: 1 or 0 (binary relation). Or still: x or -x (x or non-x).

Other names: inclusive (alternate, inclusive,-- divisive) disjunctive. In Latin: 'vel' (= and/or). It is also called 'negate'.

Such a negate or negation, in Lukasiewicz's language, reads Nx (with the negator 'N') (non-x).

(2).4.-- The utter negation (contradiction).

EO 18 (Transcendental Nothingness).-- The incommensurability (inconsistency, contradictions) is the radical counterpart of the (reflexive or total) identity.-- For example, “singing as singing” is absolutely opposite to “non-singing as non-singing”. Abstract: x is diametrically opposed to $-x$. Or: x is irreconcilable with $-x$. -- In Latin: x aut $-x$.-- Other name: exclusive (strict, dilemmatic, exclusive) disjunct.

(2).5.-- The encompassment (implication).

The logical inference (= consequence, ‘inference’, implication) is “if then”. This is called ‘implication’. In Lukasiewicz’s sign system: Cxy (if x , then y).

One can also say it in reverse: “ y is proper to (inherent in) x ”. Often this connectivum is indicated with an arrow: ‘ $--->$ ’. Or in Peano’s system : ‘ \cdot .’ (so : x). y (x implies y)).

The connecting sign is called “implicator. Thus “Dancing and singing include dancing” or “a. o. dancing is inherent in dancing and singing; -- In traditional logic, this is the artery.

(2).6.-- The mutual enclosure (equivalence).

This means, “if x , then y and vice versa (if y , then x).” This is one type of reciprocal relationship or ‘symmetry’. One also says: equivalence, evenness.-- The connecting sign or ‘bi - implicator’: $< === >$. In Peano’s pasigraph : x).(y .-- One can also say : “if and only if”.

Note.-- J. Royce, *Principles of Logic*, New York, 1961 (first edition 1912), 74, says: “The actions -- so e.g. singing, dancing, doing nothing -- constitute a collection of data -- ‘entities’ -- which are in any case governed by the same laws as those by which classes (= concepts) and judgments are governed.

The so-called “algebra of logic” can be applied to it!-- This boils down to the fact that the connectives, above, semantically interpreted, turn out to be valid. actually, this is obvious: the connective were abstracted from the life praxis. It is therefore not surprising that they allow for an ‘arithmetic’ with e.g. human actions. Call that ‘algebra’ (in the broad sense,-- mathesis universalis) or ‘calculus’!

The remainder of the text will make clearer the enormous revolution that computational thinking, understand : combinational thinking, involves.-- The paleopythagoreans, with their mathematism, could not have dreamed better!

The logical-methodological premise. (160/161).

‘Logic’ is theory of thought : the “if, then “ sentences are central. ‘Methodology’ is applied logic.

As we saw: graphism (syntactic) is the matter (the material object); combining is the operation (the formal object) and this in the logical-method-stellar sense. For not any combining is ‘formalism’.

The impetus.

J. Ritter, a.c., says.-- Egyptian papyri --.from around -1,500 -- give models of issues. Thus e.g.: (given) a pyramid whose side is 140 cubits and its slope 5 hands 1 finger; (asked (sought)) calculate its height. Behold the pedestal.

The method

“The operation (‘operation’) - here: the calculation of the height - proceeds step by step until the final solution is reached. In doing so, each part (‘step’) is derivable:

(1) from a portion of the data and/ or (2) from the previous step.”

No better definition of formalism.

The stoicheiosis.

‘Stoicheiosis’ means ‘factor analysis’.

R. Descartes, who still thought in that ‘stechiotic’ tradition, makes a totality (collection (all) or system (whole)) orderly and transparent by his “analytic-synthetic method.”

(a) Analysis in Cartesian fashion (do not confuse with Platon’s ‘analysis’ or reductive reasoning).-- A totality is broken down into its very smallest parts or elements (“ta stoicheia”, lat.: elementa).

(b) Synthesis at its Cartesian (do not confuse with Platon’s ‘synthesis’ or deductive reasoning).

These separate elements are rebuilt, step by step, into the - meanwhile made transparent - whole (collection and/or system).

Along the way, “summative induction” is continually committed. Cfr ED 98.-. Along the way, after all, one is constantly totalizing after each sub-editing. Until, with the last operation, all subtotals give the final total.

Algorithm.

Our present-day mathematics, especially as algebra, dates back both to the Indians and to the ancient Greek Diophantos of Alexandria (lived +/- 250).-- Around 825, in Baghdad, al Chwarismi, an Islamic mathematician, wrote a work on the rules of arithmetic in India. In the XIIth century this work was translated into Latin. Title: *Algorismi de numero indorum*. From al Chwarismi it became ‘algorismi’!

‘Algorithm’ is actually a pragmatic concept: it is the detailed answer to the question “What do I need to do to achieve the desired result (= pragmatics)?”

Definition.

1. Given.-- In a problem situation I am placed (initial situation).

2. Requested.

2.a. I perform a series of actions (‘operations; operations) ((means)

2.b. such that I reach the stated goal (= result) (target) (final situation).

Thus, ancient magic books and further, e.g., cookbooks are full of algorithms: step by step, one carries out the prescription and the result is, e.g., a cure (magic) or a good soup (cookbook).

One sees it: an algorithm is a purposeful set of actions.

Ontological: starting from a beginning reality, one realizes a final reality through a series of realizations.

Appl. model.

The automatic washing machine.-- Its algorithm includes a. the initial situation, b. the series of ‘commands’ (instructions, commands), c. such that the end result (washed linen) is achieved.

Behold the series of “operations.

1. the clothes to be washed are placed in the drum; the electric power is turned on; the washing powder is put in the compartment; the water supply is opened;

2. according to the nature of the laundry, an appropriate program (a laundry program is in turn an algorithm) - present in the built-in microprocessor (a chip with logical structure and memory (a computer in miniature)) - is deployed (a button is pressed that selects one of many fixed washing programs); the machine carries out the program; the waste water and rinse water are drained;

3. the clean laundry is taken out of the drum.-- A beauty of an algorithm!

I.c. -- The logical -methodological premise.

Now finally the calculus or formalism.-- How do mere graphic signs, syntactically-combinatorically cast in an algorithm, now get a formalized mode of being?

(A).-- The syntax first introduces meaningful, i.e., logically acceptable or admissible, signs. The smallest characters are thus included in compound, ‘well-formed’ expressions.

(B).-- Same syntax, applies logic to characters so placed in configurations.-- Well-formed expressions logically edited!

II.A.-- The head count as formalism. (162/166).

Let us again summarize the essentials of the foregoing: the rules of logical syntax include two aspects, namely, well-formed expressions and applied logic. This is called ‘calculus’, -- “logical calculus” then.

Appl. model.

Given: 27 and 35; asked: calculate 27×35 .-

(1).-- 27.-- One splits up (Cartesian). Into two subtotals (totalities), viz. 20 and 7.-- Thus we calculate in the mind (mentally by means of thinking signs) e.g.: $10 \times 35 + 10 \times 35 = 350 + 350$.

Summary: $20 \times 35 = 350 + 350$.-- Further summary or summative induction : $350 + 350 = 700$.

(2).-- 35.-- 7×35 can be divided into $7 \times 30 = 210$ and $7 \times 5 = 35$. Again summative induction or totalization : $210 + 35 = 245$.

These are the intermediate steps.-- Now the final result : $27 \times 35 = 700 + 245 = 945$.

Note.-- Phenomenological.

Making things transparent thanks to division (splintering a total into subtotals) amounts to falling back on direct intuition (core of phenomenology). Thus 35 is more transparent, more intuitive, because, broken down, it is thought of as $30 + 5$. Formalism consists of small intuitions logically combined, -- into large totalities.

Note -- Bibl. sample.: J.-C. M., *L'ordinateur humain Wim Klein assassiné à Amsterdam*, (The human computer Wim Klein murdered in Amsterdam), in: Tribune de Genève 04.08.1986.

Wim Klein was a math prodigy. Nickname : “the human ordinator”. -- Klein was a peaceful Dutchman from Amsterdam. Initially, he led an “eventful life”: he lived as a “clochard”; more to the point, he was once persecuted by the Nazis.-- --

But in 1958 he ended up at CERN (the international center in Geneva for microphysics). Reason: calculating purely by heart, he could perform arithmetic operations that the ordinator of the time could not handle! He stayed at CERN until 1968.

In that year he went to Amsterdam to retire. This did not prevent him from giving demonstrations at higher institutes in many countries (including Japan). His lessons were instructive and full of humor.

Appl. model.-- In the great auditorium of CERN he succeeded, one day, in calculating a number of one hundred and thirty-three digits the nineteenth root in his mind ... in eight minutes. More than once he was therefore listed in the Guinness Book.

Final sum of his life: his housekeeper found him lifeless in his home,--terminated with knife stabs.

As an aside, the rapid evolution of ordinands brought with it that, starting in 1974, ordinands surpassed him.

The question arises: does Klein differ from the average person who “calculates by heart” by more than a more practiced ability? Is there a psychic gift involved here? Or are the reincarnists right in claiming that he prepared this arithmetic ability already in earlier lives?

Note.-- Bibl. sample.: Y. Christen, *étonnantes découvertes d'un chercheur japonais (Les animaux peuvent-ils compter?)*, (amazing discoveries of a Japanese researcher (Can animals count?)), in: Figaro Magazine 01.06. 1985.

The reason: an announcement in the British scientific journal Nature.

A.-- Given.

Tetsuro Matsuzawa, at the Institute for Primate Research (Univ. of Kyoto, Inuyama, Japan), recently showed that a five-year-old female chimpanzee, Ai, can handle number operations to a limited extent.

Ai had not only been taught to indicate objects and colors; she had also been taught to count objects and colors. For example, she indicates - by means of symbolic signals - three red pencils.

B.-- Requested.

So much for the facts. Now for the interpretation.

1. Everyone agrees that apes -- including those other than Ai -- use “words” (indicating language use or “reason”),-- yes, to some extent “argue with humans (indicating dialogue and even discussion).

2. But whether such apes actually speak and argue as humans do is highly questionable.

The comparative method.

Comparing is invariably

a. see more than one piece of data and

b. confront this data with other data. One does not confuse “compare” with “equate.

Finally, this is stoicheiosis! Dividing a totality (collection (‘all’ in Platon’s parlance) and/or system (‘whole’ in Platon’s parlance) such that that totality becomes more transparent.

Brendan McGonigle, psychologist, Edinburgh, reasons as follows.

Proposition 1.-- If one shows to children uncluttered -- indicating direct intuition -- objects, they suddenly recognize them,-- in a global way.

a. Up to and including the number four, only 200 milliseconds more is required for each attached object.

b. Beyond four, children need 1000 milliseconds more, which is five times more.

Proposition 2.-- Well, Ai begins to err badly just between the numbers five and six.-
- Which, compared to children, seems to indicate something analogous.

Conclusion.-- So Ai does not calculate in the strict sense of that word (i.e. as an adult human being), but immediately grasps the sense (meaning) through direct intuition (= immediate perception). Just like children.

Note.-- Notice the logical structure: preface 1/ preface 2 (introduced by ‘well now’) / post (introduced by ‘therefore’). This is the logical structure that makes up the concluding statement or syllogism: which is ‘combinatorially’ (EO 159: encompassing) an implicative connection (if preposition 1 and preposition 2, then postposition).

Or to put it differently: the reality of preposition 1 and preposition 2 (= combinatorial product) (EO 158) together is the reality of the postposition (inherent). In short: prep. 1 ^ prep. 2 ---> concl.

In passing

The syllogism is one example of logical calculus.

The Lemmatian-analytical method. (164/166).

Other name “proleptic-analytic method”.

Bibl. sample.:

-- O. Willmann, *Abriss der Philosophie*, Wien, Herder, 1959-5, 137 (Lemmatisch-analytisches Verfahren);

-- id., *Geschichte des Idealismus, III (Der Idealismus der Neuzeit)*, Braunschweig, 1907. 2, 48ff. (Analysis).

Already in antiquity, Platon of Athens was considered the inventor of this extremely fruitful method that can also be referred to as the “hypothetico-deductive method.”

Diogenes Laërtios (+/- 200/250), in his history of philosophers (3: 24), says: “As the first, Platon made the research based on ‘analysis’ (understand : lemmatic analysis) available to the thasian Leodamas.”

The structure.

a. The basic twofoldness of any problem solving viz. “given / demanded”.

b. The reductive reasoning or ‘analysis’ that seeks the necessary (and sufficient) premise (conditions) (EO 63; 68; -- already 37): “if A, then B; well B; therefore A”. A’ functions as the necessary and eventual sufficient condition or reason of B. The finesse of the lemmatic-analytic reasoning consists in ‘combining’ (literally) a and b.

The 'fine' consists of

- a. the sufficient reason proposed by the reduction (= here: that there is a solution)
- b. to presume as already present in the given as an unknown, which is sought (demanded = solution).-- Therefore, the name "lemmatic-analytical method" ('lemma' = presupposition) or "proleptic-analytical method" ('prolepsis' = presupposition) would be better than the ordinary name "analytical method" or "analysis!"

By pretending that the requested thing is already found, the requested thing belongs to the given thing. As a provisional unknown. From this one deduces - 'sunthesis' or deduction: if A, then B; well, A; therefore B - conclusions that have testing value.

Such method formulates itself as follows: "Supposedly, one already knows what one is looking for" or "if the task (requested) had already been solved". - This is similar to the "black-box method".

When an electrician stands in front of a device - box - which he cannot possibly open or which he does not know at all - black box - , he can key in the electrical wires coming out. In this way he gets to know the unknown box to some extent. Until when he knows with certainty how to handle it without opening it.

Summary:

- a. given: a black box;
- b. asked: integrate them into the electrical grid. The review acts that get him this far make out an algorithm (EO 160).

From number math to letter math.

The mid-century arithmetic manuals are somewhat familiar with the unknown. They designate them with a curly.-- But it is the genius platonist François Viète (1540/1603: Latin: Vieta) who generalized the platonic lemmatic-analytic process. Instead of calculating with mere numbers - *logistica numerosa* - he was the first to calculate with letters - *logistica snciosa* - (his work: *in artem analyticam isagoge* (literally: introduction to analysis).

In his wake, René Descartes, the father of modern thought, designated the unknown - instead of by the mid-century curl - by 'X'. This has remained so until our days! Thus the requested 'x' is temporarily inserted into the data as an unknown. This is the lemmatic-analytic method of Platon.

As Willmann rightly mentions: this method - combined with the equations (e.g. $x+y=z$) - has proved extremely fruitful (algebra, 'analytic' geometry, logistics).

Take a very basic but instructive example.

The rule of three.

This 'rule' consists in the fact that from a (given or, if necessary, to be searched for, in any case to be put first) universal set - u - via (finding or being given) precisely one element (= singleton) - s - one or another private or subset - x - one searches for the same element.-- This is in all cases the most common form.

The structure.

Given: u (a universal number);

Requested: x.

The algorithm.-- Given the ratios within a set (u = all x, of which s is actually the smallest case), one can reason as follows: u = 100% = e.g., 200; well, s = 1% = 1/200; so p = x = 1/200.x.

One sees, in this very basic example, the steps that collectively give the final result - x = known.

In fact, e.g. 25% or 3% or 120% are just names for 'x', the lemma that is introduced into the given. 25% e.g. is to present the provisional unknown as known or, at least, to anticipate its being known.

Typically the platonic lemmatic-analytic method.

Ontological.

A reality (collection here) of which a part is known - 'true', revealed (EO 62: the being and the true, understand: the revealing, resp. revealed) - (the given) and a part unknown (the demanded), becomes through the algorithm better, possibly completely known ('true', exposed, revealed).

A case of induction, by the way: EO 99 (amplificational induction), where from a part to the whole is concluded.

Phenomenological.

All that is 'true', revealed, is 'phenomenon' because it shows itself to consciousness. The given is phenomenon while the wanted or requested is transphenomenal (not yet (fully) revealed).

The algorithm of operations therefore has phenomenological value because it exposes, makes phenomenal, what it was not at first or at least too little.

In this sense, the issue of dissolution belongs to the holistic ontology, which is essentially concerned with the transition from all that is phenomenal to the transphenomenal (which, once turned into a phenomenon, involves consciousness expansion). And thus of all that is - the totality of being or reality - brings more to consciousness.

II. B.-- The numerical calculus as formalism.

With this we end up in the written calculation.-- Again: the configuration!

Take the same multiplication “27 x 35”. Every schoolchild learns over time that the units (5, 7) and tens (2, 3) must be placed correctly. EO 47 (paleopythagorean configuration) and even 54 (platonic philosophy of language)

27	already taught us: stoicheiosis! The split-up elements are placed in a
<u>x 35</u>	logical syntax from right to left (units E; tens T), etc.. See: The
135	division is clear: first 5 x 27, then 3 x 27. The steps! The totalization
<u>81</u>	of the subtotals, - result of summative induction (EO 98), is also clear:
945	135 + 61 (0) = 945.- -Each step takes into account all that goes before
DHTE	(cumulative).

II.B. The letter calculus as formalism.

Here we are already on the trail of Francois Viète.

Take an algebraic model.

Given: the ‘equation’ (ontologically there is an analogy here)

“ $ax^2 + bx + c = 0$ ”.

Asked: to “solve” the equation.

‘Solvent is ‘analysis’ in ancient Greek.

The algorithm. -- For example, $(ax^2 + bx + c) - c = 0 - c$. This is the first ‘step’. This leads -- deductively-mathematically -- to $ax^2 + bx = -c$. -- Again, the triad “given / demanded / algorithm”. The creature structure.

Note -- Syntactic rule.

We have just applied a “syntactic rule”, namely, “For all bridges, any member of a mathematical equation may be transferred to the other side if it is given an opposite sign (+, - become -, +).”

A law is something else.

For example, “a is a” or “ $x = x$ ”.

A rule in logical syntax does rely on laws of all kinds, but it is practically reducible to a mechanism. Once a learner is familiar with it, he/she proceeds like eating with a spoon and fork (which have also become ‘automatic’ -- from conscious effort to unconscious playfulness).

Here: given the equality sign between the two comparison parts (which relies on the law $a = a$), one can automatically transfer (swap) the parts by reversing the signs - and + (which is a syntactic rule, -- relied on the identity law, -- a fundamentally ontological law: EO 25).

Sample 22.-- Holistic ontology: formalism once more. (168/179).

We turn to the letter math ushered in by Frangois Viète.

His “*logistica or logistica speciosa*” works, instead of with numbers - *logistica numeroza-* , with ‘species’, i.e. forms of being (“*forma rei*”, form of being of a given).

Background - said O.Willmann - was the platonic idea that includes all possible copies of a set (an infinite set).

Practically, it is represented in the universal or general concept.

Appl. model.

EO 158 (Combinatorial Sum) taught us one type of combining, namely, the sum.

Until Viète one calculated with e.g. “ $3 + 4 = 7$; i.e. with copies of the universal idea ‘sum’. In order to get out of that singularity - 7 is one singular number - and thus to be able to incorporate the universal “sum as such” (EO 158: Reflexive Relation), i.e., “as a sum” into operations or arithmetic operations, Viète resorted to letters.

Model Theory.

The abstract-universal concept (platonic: representation of the pre-existing, yes, eternal idea ‘sum’) - the original (in the mind) - is depicted by Viète in the model, i.e. the ‘formula’ or (literally) ‘little form’, i.e. “form, creature form, in miniature

Better yet: semiotic model of the creature form.

This semiotization of abstract notions is Viète’s genius finding.

Quantity 1+ quantity 2 = quantity 3 or ‘sum’ (line)	$a + b = c$	$3 + 4 = 7$	Note: The diagram or configuration shown here shows the operational or formalistic progression quite clearly: the letter account includes the for parts of both extremes, left and right.
	Rule	Application	
universal and non- operational	universal and operational	private and operational	

Note.-- The extensions.

1. The doctrine of function.

A “function,” in mathematics is a quantity that is “function of” (depends on) other quantities.

Take a formula from Einstein: $E = mc^2$ (= the mass x the speed of light in the square ---> energy). *c* is an immutable (constant), while *m* is a variable (variable).

Thanks to letter math, that function can become practically attainable. Is it “operational.

2. The “analytic” geometry.

The connection of function theory and space mathematical “models” founds analytic geometry. R. Descartes (1596/1650), in his *Géométrie* (1637), -- more clearly Pierre de Fermat (1601/1665) are the founders.

A numerical mathematical function (= original) is represented, via the Cartesian coordinate system (the basic configuration) with variables x and y along the axes, in a space mathematical configuration (= model).

Appl. model.

For example, the function “ $x^2 + y^2$ ” (‘ r ’ is radius or radius) is depicted in a circle configuration or ‘figure’.

As an aside, as Willmann rightly mentions, Descartes invariably weathered his reliance on the ancient Greeks while Fermat clearly processes Apollonios’ *Topoi* and Eukleides’ *Porismata* as groundbreaking.

3. The infinitesimal calculus.

The differential and integral calculus (the first: the number value of two “infinitesimal” values; the second: the sum of an infinitely large quantity of infinitesimal number values) - together ‘infinitesimal calculus’ - we owe to P. de Fermat (who, in passing, founded probability calculus with Blaise Pascal (EO 148)). Again: the ‘formulas’ semiotic formations) we owe to Viète.-- To what O. Willmann says on the subject.

Logical arithmetic or “logistics” (169/171)

Beginning with a thesis.

1950At the congress of philosophers in Bremen, logisticians who were there debated the profound distinction between traditional logic and more recent logistics.

1951: The discussion will be resumed at a conference in Jena.

At Bremen, Bruno von Freytag - known for his *Logik (Ihr System und ihr Verhältnis zur Logistik)*, (Logic (your system and its relationship to logistics)), Stuttgart, 1955-1, 1961-3) - stated:

- a.** there are many logistic calculi;
- b.** but there is only one logic.

For there are the logics concerning predicates, judgments, modalities, etc., but all of them, since Platon and Aristotle, deal with one theme, namely the if-then relation with the introduction of the logic concerning the concept and the judgment (concepts and judgments are only constituents of the reasoning, which invariably takes “if..., then...” forms. forms). Yet let us now turn to calculating ‘logic’ or logics.

Appl. model.

Let us take the strict affirmation or implication sign as a model.

Characters, standing for sentences (judgments, propositions), are placed configuratively but in a logically -strict manner.-- Thus : $(a \iff b) \dashv\vdash (a \rightarrow b) \wedge (b \rightarrow a)$.

Using colloquial words : if $(a \iff b)$ then. $(a \dashv\vdash b)$ and $(b \dashv\vdash a)$. According to EO 158 (product), 159 (implication), 159 (equivalence).

In other words, the equivalence relation - a stochiometric or hermeneutic phenomenon - is thus expressed in a formalized way.

Note.-- Analogy between logic and logistics.

Sometimes logistics is just a formalization of what, for centuries, classical logic knows and applies.

Take the chapter of “immediate deductions” (Ch. Lahr, *Logique*, Paris, 1933-27, 511/514 (*La déduction immédiate*), (The immediate deduction).

‘Immediately’ means, here, that the derivation occurs without much effort (practically always in virtue of a fluent theory of sets (stoicheiosis) and an understanding of confirmation and negation).

A.-- Logically.

The logical conversion or exchange rule says, “In a concluding statement (= syllogism), a negative judgment of general scope (general negative judgment) may be converted (exchanged).”

Thus “No (single) man is a stone” becomes, after conversion: “No (single) stone is a man”. Practical: subjunctive (subject) - S - and proverb (predicate) - P - ; - e - (= nego (= I deny)): “For all sentences of the type “S e P” it is true that they are convertible into “P e S”. This is called the traditional logic “rule of thought. Symbol shortened logic approaches strongly logical syntax.

B.-- logistic.

In formalized logic it reads as follows: “There is a syntactic rule, applicable to “S e P” (universal negative judgment) such that the letters - letter arithmetic - before and after e - in all formulas of the type “X e Y” may be inverted (be connective).”

In other words, what traditional logic initially practices when it works in a symbol-shortened way, logistics, thanks to the letter-drawing of Fr. Viète, practices through.

Thus, e.g., an ordinary rule of thought becomes a “syntactic rule.” -- Logic proceeds ontologically-omnisciently, logics ontologically-syntactically.

Note.-- The stages of “symbolic logic” (one of the names) give - abbreviated - what follows.

1.-- The preliminary phase.-- Two names: Fr. Viete and G.W. Leibniz.

2.-- The initial phase.-- “logical algebra”. -- 1847: G. Boole (1815/1864) and A. de Morgan (1806/1878) deployed “mathematical or mathematical logic” (again, one of the names). While B. Peirce (1809/1880) and E. Schroeder (1841/1902; *Algebra der Logik* (1890/1895)) develop class and judgment logic, in an analogous sense.

3.-- The actual logics.-- G. Frege (1848/1925), with his *Begriffsschrift* (1879), and G. Peano (1858/1932; EO 140), with his *Formulario matematico* (1895+), reestablished the previous “logical algebra.”

Their work is crowned by the monumental work of A. Whitehead (1861/1947) and B. Russell (1872/1961), namely *Principia mathematica* (1910/1913).

This title may be misunderstood: both intended precisely to reduce mathematics to a logic (admittedly mathematical-calculating). Immediately, D. Hilbert (1862/1943; *Grundlagen der Mathematik*, (Fundamentals of Mathematics), I (1932), II (1939) also worked in an analogous vein with his ‘theory of proof’.

Note.-- In passing for those totally unfamiliar with some terminology.

‘Logistics’ also has a military meaning. According to Vice Admiral G.C. Dyer, Naval Logistics, Annapolis, 1960, “Logistics” is “the total process by which a nation’s resources - both human and material - are mobilized and directed to the performance of military tasks.

This includes:

a. the overall or “political” strategy (“grand strategy”) that sets forth the major objectives, as well as the “operational” strategy that is situated on the battlefield itself, and

b. the tactics, i.e. the optimization or maximum - useful effect - also on the battlefield itself - are helped by the (military) ‘logistics’ that provide combat resources, personnel and materials.

Note.- (171/176) - In addition to the “established” subjects - relationship logic, class logic, and judgmental logic - there is metalogics (called “metalogics” by those unacquainted with the true nature of traditional logic).

Given the tremendous importance of its basic premise, a word about it.

1.-- Xenophanes of Kolofon (-580/-490).

Bibl. sample.: W. Röd, *Geschichte der Philosophie*, I (*Die Phil. der Antike 1 (Von Thales bis Demokrit)*), Munich, 1976, 75/82 (Xenophanes).

Röd attributes to Xenophanes “metatheoretic Einsicht” (metatheoretical insight), i.e. a theory about a theory.

Appl. mod.

a. The language of ancient Greeks about Iris.

‘Iris’ meant i. the natural phenomenon of the rainbow; ii. at the same time, in religious middens, the goddess who showed herself in that natural phenomenon (‘theo.fania’, a deity who exposes herself, ‘appears’).

Iris was revered as the messenger of gods and goddesses. Perhaps in connection with the perception that the rainbow connects heaven and earth.

b. The language of Xenophanes over that language of the Greeks.

“What the mass is called ‘Iris’,--that too, according to its ‘fusus’, nature, considered, is only an aerial phenomenon which, when observed, shows purple and bright red and yellow-green colors” (Fr. 32).

If we correctly interpret the term ‘fusus’, lat.: natura, nature, Xenophanes means “a reality stripped of its religious interpretation”. Since Thales of Miletos, founder of the Milesian philosophy of nature, this has become common practice: we would now call it ‘deconsecration’ (desacralization) or ‘secularization’ (secularization). For what Iris indicates both as a goddess and as a messenger on behalf of the deity world is ‘sacred thinking’. However, what denotes ‘iris’ as a pure rainbow is ‘secular’ or ‘secular’, ‘worldly’ thinking.

Note: this did not exclude sacred interpretation among the Milesians. They were still too ‘archaic’ for that. -- The way Xenophanes speaks in that fragment is language over language; thus meta-language. Instead of direct speech: indirect speech “I say that what the Greeks say .

c. The language of Xenophanes over his own language.

“These things being recited as mere opinion - the doxastho, as somewhat approximating original reality - etumoisi eoikota -” (Fr. 35).

In other words, Xenophanes ‘relativizes’ his own position.-- That is indirect speech over his indirect speech: ‘I say that what I say about what the Greeks say is merely “mere opinion” (doxa), “approximation.”’ That then is meta-language in the second degree.

In other words: in this case, the meta-language or rather meta-theory (for Xenophanes, in the line of the Milesians, wants to express a “theory” about “Iris”) amounts to a modality (EO 36: speech-k. mod.). Or an “inner speaking” about what he is addressing to contemporaries. Namely, how he wants to be understood. With reservation or restriction. Reservation which he expresses in the form of a metatheory, a theoretical statement about a theoretical statement.

Note -- Semantic stages.

Bibl. sample.: I.M. Bochenski, *Philosophical methods in modern science*, Utr. /Antw., 1961, 72v. (Semantic Stages).

1. Semantic zero stage.

“I see that squirrel over there picking out a pine cone” is already a semantic trap. But the fact that I see that “squirrel over there picking out a pine cone”, before I explicitly say it, is a semantic zero staircase, because there is no utterance or ‘meaning’ (in colloquialisms) yet.

2. Object language or first semantic stage.

The object being talked about is semantically a zero stage (there is no semantics because nothing is said).-- Object language, however, is language about the object.-- Grammatical: direct speech : “I see that squirrel over there picking out a pine cone”

3. Meta-language or second semantic stage.

Zero stage (the object). First stage (the language about the object). Second stage: the language about the language about the object.-- “I tell you that I see that squirrel over there picking out a pine cone” is indirect speech about the sentence “I see that squirrel over there picking out a pine cone”. --- So meta-language is language over language.

Analogously: metatheory is theory about theoretical speaking.-- Semiotically expressed: signs about signs representing the object.

2.-- The paradoxes of the liar. (173/177)

Bibl. sample.: E.W. Beth, *The Philosophy of Mathematics*, Antw. / Nijmeg., 1944, 78/92 (Eristics and sepsis).

Euboulides of Miletos’ formulation: “One asks someone: “If you say that you are lying, are you really lying or are you telling the truth?”. To this two answers are possible: “Yes, I lie” and “Yes, I tell the truth”: For centuries people have debated the correct status (reality type) of both liar’s answers.

In our opinion, the solution to that problem lies in the semantic steps. With the praxis of what the Romans called “restrictio mentalis”.

The proof from the incongruent reads as follows:

“If the lying one answers, ‘I lie; then the questioning one says: “If you maintain that you are lying and you are lying, then you are telling the truth. So your answer is false,- - false”. “If the person who is lying says: ‘I am telling the truth; then the objection is : ‘If you claim that you are lying and you are telling the truth, you are lying.

Beth refers here to A. Rüstow, *Der Lügner*, (The liar), Erlangen, 1908-1, Leipzig, 1910-2.-- But what exactly do we now know more with that finesse regarding refutation? Nothing. The problem lies elsewhere.

The Refutation of Chrusippos (-280/-207).

This “great stoic logician” (according to Beth) claims that “whoever says he/she is lying is not uttering a meaningful claim but merely meaningless words” (Beth, o.c. 82). They are “mere sounds”!

Consequence: asking with an Euboulides of Miletos whether this statement “I lie” is a true or untrue statement is meaningless.

“This solution to the problem of the liar - known to mid-century dialecticians (note: specialists on reasoning) as ‘cassatio’ - was (...) again put forward by Bertrand Russell and is almost unanimously accepted by contemporary logicians.”

Behold two methods of dealing with the paradox of the liar with logical rigor.-- But they leave the true structure untouched.-- In our view this lies blatantly in the doctrine concerning the semantic steps.

Departing from Platon’s definition of thinking.

As W.B. Gallie, *Peirce and Pragmatism*, New York, Dover, 1966-2, 131f., says in passing, Platon claims that thinking is “the soul in conversation with itself.”

Gallie: “Thinking or reasoning is a rather special form of communication, namely a kind of internalization of habits of speech and gesture, of behavior. We learn this first through active communication with those around us”.

When I lie, this is how it happens.--”Thou art lying” says something within me. Religious people call that agency or authority “the voice of God within us.”

Ethical people reduce that voice of God to “the voice of our conscience” (socialized with Freud: “das Ueber Ich”),--unless they want to know anything of God’s voice in it. Which then is a desecrated or secularized “voice of conscience”.

In the first (the religious) case, a rule of conduct of God as a rule of play toward God and neighbor is violated. In the second case, a socially more or less serious rule of conduct is also violated.

In both cases one exceeds the law of identity (EO 25), basis of ontology and of traditional logic. And thus at once the basis of all “communicative acts” (J. Habermas), i.e. acts which - within a rational humanity - should lead to all kinds of understandings (“consensual interpretation”).

Put more simply, if I cannot rely on truth regarding statements and all other signs, how can I act “rationally” (purposefully) in community? This is “le contrat social”, the social agreement, par excellence.

The voice, whether of God or of the ethical conscience, silently but extremely oppressively reproaches that transgression which consists in perverting the law of identity: “What is, of that I outwardly assert that it is not.” This is the inner contradiction.

When I lie, this is how it happens.

“Actually I am lying” I say to myself insofar as I do not consciously suppress or unconsciously repress the transgression of the identity law.

Platon, *Sophistes* 228, quoted - curiously in a book on ‘madness’ - and translated as follows, says: “Untrue knowledge is - seen from the truth, when the soul is breaking through to it and in the process deviating judgment arises - nothing but ‘parafrosune’ ‘ein Vorbeidenken’ (according to the cited book), a prebending to reality.” (W. Leibbrand/ A. Wettley, *Der Wahnsinn (Geschichte der abendlandischen Psychopathologie*, (Madness (History of Occidental Psychopathology,)), Freiburg/ Munich, Alber, 1961, 60).-- Usually ‘parafrosunè’ is translated by ‘delusion’, ‘delusional thinking’, ‘madness’!

When I am lying, turning in on myself, I inevitably say in and to myself, “Actually, that is, when it comes to actual reality (and not a semblance of reality), I must confess in and to myself, “I am lying.”

Note.-- This is one form of what ancient Greeks called ‘anti.frasis; contradicting oneself, ‘antifrase’, whereby one indicates something by means of signs such that the indicating signs indicate the opposite of that something.

Note -- One notes “the perfect or as perfect as possible imitation”. -- The successful liar imitates the truth regarding words as perfectly as possible. So that the interlocutor can penetrate as little as possible the sentences just quoted: “You are lying” (says the voice) and “Actually I am lying” (I say in and to myself).

In other words: the actual thinking, the thinking that Platon called “inner conversation”, is kept “inside”! As a result, the fellow man gets the impression that what is said is “meant”.

Didn't someone say that “man can be a shrewd comedian”? A “hupokritès,” a playwright/playwright, one who plays,-- merely plays,-- the existence of another than himself. Here: the existence of a conscientious being is betrayed for a game.

Inner reservations (“restrictio mentalis”).

When I lie, this is how it is done.-- “I lie to you without question” Thus inwardly the lying speaks to his fellow man. This sentence always sounds along with the two previous ones: “Thou art lying” and “Actually, I am lying”. Platon called this “thinking” as speaking inwardly with and for oneself. As so often he struck truth!

But that third phrase remains remembered by the fellow human being: the restriction or reservation (“modality”) remains situated mentally, in thought, in the inner conversation.-- This belongs essentially to the structure of lying.

Meta-language.

The language, here, is what the lying outwardly says. The meta-language is the language about that language. It can be essentially summarized in three phrases: “When I speak to you,--I am up to listening to the inner voice that says, ‘Thou art lying,’ --I am forced to admit, in all honesty, ‘Actually, I am lying,’ --I say --more often cynically or shamelessly -- ‘I am lying to you without question.

One sees it: the application of the doctrine concerning the semantic steps, especially the last two (language and meta-language), explains the lying more thoroughly than e.g. Euboulides' research into the (externally viewed) ‘truth content’ (reality content) or Chrusippos' ‘cassatio’ (“It's just sounds”).

Semantic stages and intentionality.

Returning for a moment to the chapter on intentionality (EO 154), in the experience of lying - either that we ourselves lie or that we are lied to - we are confronted with: “I take care that thou wilt not be lied to, but take care that I do not lie to thee.” This mutual intentionality or consciousness orientation is clearly at play here.

Or on the other side, “I take heed that thou mayest lie to me.” -- That intentional “communication” without words (speaking signs), but “from soul to soul”, “from inner speaking to inner speaking”, is one being aspect here.

Descartes (EO 145), as a modern rationalist, started from “le sens intime”, the inner perception. Through Augustinian tradition he tapped into Platonic insights on the subject.

In the phenomenology of lying and being lied to, the inner world comes into its own!

Consciousness, which according to the Austrian school (EO 149; 154 (Brentano)) is oriented to the world, can nevertheless confine itself to the inner world,-- lock itself up in “le sens intime” or closed-individual consciousness, shut itself out. In order to ... lie!

So that from that experience it is clear that consciousness is twofold: to the inner world and to the ‘outer’ world. In the experience of lying and being lied to, the term “outside world” takes on a very intense reality degree.

Language (in terms of speaking and writing characters) and meta-language (in terms of mere thought characters) reflect the inner and outer worlds in which our consciousness is at home. Our dual consciousness expresses itself in speaking and writing language and in thought meta-language.

Holistics.

Ontology is holism, i.e., focus on the totality of being(s).-- But inductive, i.e., through sampling in that totality (EO 143).

That is the basic insight of this ontology.

With the analysis of lying and being lied to, semiotically and intentionally (phenomenologically), we have an expanded awareness of the definition of “in-the-world-ness” which attaches to the phenomenon of “consciousness”, in phenomenological mediums. With as sample : the lying and being lied to.

3 -- “Metalogica”.

John of Salisbury (1110/1180), the Latin humanist of the full middle ages, known for his theory of the relation “thesis/hypothesis” (the relation between general and even ideal rule and singular, indeed non-ideal situation: e.g. “Go and multiply. “Must our Anneke therefore necessarily have children?”), wrote a work, “*Metalogicus*,” i.e., a logic about logic,--a reflection on logical thought.

In an analogous, reestablished sense, metalogics is -- a meta-language about logical language as logical language.-- 1915: L. Löwenstein;-- later: Löwenstein, Skolem (1920);-- Herbrand (1928), Tarski (1930), Gödel (1930+), Henkin (1947), Cohen (1963), etc. These names prove a new logical development,--about which we will not elaborate here.

Note.-- Platonism and (formalized) logic.

“In fact, the founders of logic (understand: logics) are not only not positivists but, on the contrary, platonists -- G. Frege (1848/1925), A.N. Whitehead (1861/1947), B. Russell (1872/1970),--at least when he wrote the *Principia mathematica* with Whitehead; later he evolved; J. Lukasiewicz (1878/1956), Abraham Fränkel (1891/1965), H. Scholz (1884/1956; founder as theologian of a Center for logical studies), et al. -- and counts followers in all (philosophical) schools (I.M. Bochenski, *History of contemporary European philosophy*, Bruges, 1952, 270).

This text counters a widespread misconception. The neopositivists have, admittedly, made a devastating use of logistics: they assumed, among other things, that only mathematical-naturalistic language allowed for valid statements in the professional sciences and philosophy.

This axiom has since been greatly weakened by all kinds of criticism,--among others by the “new rhetoric” (Ch. Perelman / L. Olbrechts-Tyteca) who opposed the “theory of proof” (EO 171: Hilbert), which is strongly used in mathematics and the experimental sciences (“rock-hard science”), with a “theory of argumentation”, which belongs more to the human sciences (e.g. law) and to philosophy but most to rhetoric (communication sciences).

Immediately we are confronted with the limited scope of computational thinking.

Hermeneutics.

We note just now that there are at least two interpretations of formalized logic'. - The (neo)positivist and many others. This puts us on the way of an own relation type (EO 158) namely the clarity relation.

Note.-- The first thinker to have clearly grasped this relationship anywhere seems to us to have been Alkmaion of Kroton (-520/ -450; pythagorean physician): he sharply distinguishes between 'aisthanesthai', direct perception, and 'xun.ienai', literally: to make connections, to interpret, to interpret,-- best: to understand correctly through interpretations.

a. Animals -- so he says -- perceive,-- directly.

b. Humans, however, perceive but understand indirectly, i.e., through interpretations what they perceive.

c. Deities perceive and understand, evidently, directly or, at least, much more directly.

In any case: for Alkmaion, real knowledge is, with man, and direct perception and indirect interpretation.

This interpretation of this early thinker rests, among other things, and above all, on the fact that he says: "Only thanks to 'tekmèria', signs, of the hidden, can we conclude to the existence of that hidden." We do not grasp the transphenomenal directly, but indirectly through signs present in the phenomenal. These 'betray' literally that which hides behind the phenomena-with-the-signs-of-the-transphenomenal.

Situated in Greek democracy, which presupposes essentially more than one interpretation of the same giving in the agora or popular assembly (direct democracy); this gives rise to the one-multiple relationship: a given (observed) ----> more than just one interpretation.

Alkmaion was a physician. Doctors are regularly confronted with symptoms, i.e. signals of something hidden, i.e. with ambiguity.-- 'Hermeneutics' is 'hermeneutikè', the art of interpretation.

Formalism and life.

a. The structure of the operations (EO 160) is: given / requested - algorithm.

b. Our life or 'existing' is structured in an analogous way: given/requested (we are 'thrown' into existence (thrownness) with the task of "making something of it" (design)) - algorithm (all deeds after we are received in the mother's womb are a series of deeds that attempt to make the requested thing true).

In other words: there is uniformity between life and formalism, which is precisely one form - step - of life

Sample 23.-- Holistic ontology : computer engineering. (18/191).7

Direct perception is the essence of phenomenology: that which shows itself immediately to consciousness is the starting point. All that shows itself only indirectly, we call 'transphenomenal', because it exceeds all that is immediately given. We are therefore not aware of it... except through the boundary consciousness that accompanies all that is immediately given.

An Alkmaion of Kroton, archaic thinker, exhibits such a boundary consciousness through- that, in the midst of the phenomenal, he finds "signs" pointing to the "trans"-phenomenal. Thus the symptoms of an ailment.

When we engage ourselves so deeply - in an ontological manner admittedly (and thus not so specialized) - with formalism, for example, it is because we thereby responsibly transcend the merely phenomenal and thus 'expand' our consciousness to transphenomenal data.

One of the phenomena that belong to that same broadening is the computer. Hence this little chapter.

Bibl. sample.:

1.-- E. van Spiegel et al, *The Information Society (The Consequences of the Microelectronic Revolution)*, Maastricht/Brussels, 1983 (work indicating the tremendous resonance of the computer as an element of civilization);

2.-- P. Heinckens, *Programming is more than typing*, in: *Eos* 6 (1989): 9 (Sept.), 69/73; -- H. Christiaen, *Computers in the classroom? (Why, what for, how ?)* in: *Streven* 1985: May, 634/645;

3.-- E. De Corte/L. Verschaffel, *Learning to program: vehicle for acquiring thinking skills?*, in: *Our Alma mater (Leuven)* 1990: 1 (Feb.), 4/35 (with bibliography);-- J. Ellul, *Le bluff technologique*, Paris, Hachette, 1988.

The bibliographic mass regarding ordinariness is confusing, of course.

The 'dynamic' system. (180/183).

One of the basic prepositions for understanding computers is the concept of a dynamical system.

Bibl. sample.: D. Ellis/ Fr. Ludwig, *Systems Philosophy*, Prentice-Hall, Englewood Cliffs, N. J., 1962.

The book begins with a definition of sorts. This puts forward a triad, namely Matter/ Energy/ Information. With this triad we have at our disposal the three basic concepts (categories: EO 85) both of the professional sciences and of the related science theory.

As an aside, in England, in the context of the first modern industrial revolution (+1770), the concept of 'energy' acquires, in addition to its traditional meaning, a practical-technical scope of first rank. Without 'energy' no industrialization! Industrialization, which was one of the main concerns of the enlightened rationalism of the time. The steam engine, coal,-- later petroleum, -- still later nuclear energy embody the concept of 'energy'.

Immediately, the concept is given a place in theories: Mayer (1845+), Helmholtz, Michaud (with his *énergétique générale* (1921)) and others.

Also in passing: the concept of information has been given a practical-technical scope since 1948 - Norbert Wiener (1894/1964), *Cybernetics (Control and Communication in the Animal and the Machine)*, The Technology Press of M.I.T./ J. Wiley, New York, 1948-1, 1961-2 - in addition to its traditional meaning.

Information theory arises immediately, of course.

Organismic thinking e.g. - Wiener, Rosenblüth, Mc Cullock - sees similarities between biological organisms and technical 'artifacts' (constructed machines): in both types of reality one finds "purposeful or dynamic systems".

1951: A congress of cybeneticians, steering experts, already takes place in Paris under the direction of L. Couffignal. 1956: In Namur, there were already nine hundred participants from twenty countries at such a meeting!

Such an explosion was, according to Ludwig von Bertalanffy, *Robots, Men and Minds (Psychology in Modern World)*, New York, 1967, 61ff,..., threefold explicable:

- a. von Bertalanffy's demand for a general theory of systems,
- b. the enormous resonance of Wiener's work,
- c. the production system in economics at the time that "encompassing organization" had to make transparent in a rational way.

All this is concentrated in an information theory: Cl. Shannon/ W. Weaver, *The Mathematical Theory of Communication*, University of Illinois Press, Urbana, 1948. After all, goal-directed or dynamic systems process information.

Computer science is the science that studies the storage, via memory, - the retrieval, the comparison, the adaptation of information (= data, data with cognitive or knowledge value),--mainly by means of the computer, a device that computationally processes data (information).

In terms of “systems” one distinguishes:

a. ‘concrete (= semantic zero stage) as a crystal, a biological body, a factory, a cultural center;

b. ‘Conceptual’ (understandable,-- models) as a set of points, a number system,-- an atomic model, a diagram, -- things constructed by the human mind but still referring to concrete systems as representations of them;

c. formal (formalized) as a judgmental logic, a formalized axiomatic theory, a programming language for computers,-- things that represent a system of signs in which (i) of a physical or concrete reality (ii) a comprehensible or conceptual representation (model) (iii) is described computationally-symbolically.

Bibl. sample.: Doede Nauta, *Logic and model*, Bussum, De Haan, 1970, 174.

Information Processing Systems.

According to Ellis/ Ludwig, o.c., 3, a system is “a design, process or scheme that behaves according to some prescription (information, ‘command’).”

Its role or function - hence “functional system” - is the processing of matter and/or energy and/or information such that matter and/or energy and/or information emerge as a result.

Between the ‘input’, input, supply, and the ‘output’, output, result, all kinds of transformation processes are situated. A grain mill is a producer of ground grain (matter), a steam engine produces energy, a computer produces information.

‘Information’.

Colin Cherry, *On Human Communication*, M.I.T., 1957, 221ff., notes similarity and difference between “pure” communication of information and control by information:

a. someone is frightened of me and I tell him, “plunge into that pond!”;

b. I bump it into the pond.

In the first case, I give him a pure information; in the second case, informed by the same information (“Dump into that pond”), I physically age on him: the result is the same, but the mechanism differs. The first case could be called ‘suggestion’.

The triad.

A dynamic system involves three components or phases.

1. An input (input, recording);

2. a “black box” the transformation: function or the interior;

3. An output (drain, effect, result).

The famous “stimulus-response” scheme suddenly acquires a cognitive or computational middle term thanks to the notion of “information-processing system.”

recording ----> black box (quasi closed) ----> drain

recording ---> self-regulating quasi-closed system --->
^ readmission (feed back = adjustment) v

The above diagram clearly shows similarity and difference between two types of dynamic system.

With A. Virieux-Reymond, *L' épistémologie* 1966, 46/47 and 67, one can speak of “retroactive causation”, i.e., a coupling of target cause and efficient cause. Indeed: the feedback or “feed back” acts causally but in the service of a target cause (target cause).

Archaic-Greek thinkers like Anaximandros of Miletos, Puthagoras of Samos, Herakleitos of Ephesos, Empedokles of Akragas and others knew this scheme of self-regulation very well and gave it the name of ‘kuklos’ cycle. Herodotos of Halikarnassos, the father of land- and ethnology, also sees it at work in nature and in mankind,--on various levels.

Platon knows the term “kubernètikè”, steering science. Aristotle, speaking of constitutions, distinguishes “telos (aim (orientation) / parekbasis (deviation)/ epanorthosis or rhuthmosis (recovery, adjustment).”

Holistic.

The starting point is always that which shows itself immediately (‘fainomenon’, phenomenon,-- object of phenomenology). The rest is transphenomenal,-- beyond the grasp of our immediate consciousness.

The blotting out - alètheia, apokalupsis, ‘truth’ - of the notion of a “dynamic system” as present in all layers of total reality gives us a sample that is significant of the totality of ‘being(s)’ or reality, object of ontology.

‘Being’ is to a large extent ‘dynamic system’ or ‘purposefulness’.

The computer system.

First, we note two major portions.

1. The actual computer with the keyboard (keypad) in front.
2. The background is peripherals.

Notice:

a. the keyboard is input machine; **b.** the ‘monitor’ (with e.g. the screen) and the printer are output machines. See the application of the above diagram.

Note.-- The diskette is a disk on which countless “data” (data, intelligence, information) are stored (the data carrier). But at the same time it is “memory” (the storage place of data).

It is thus an input and output unit.-- Input, memory and output are the three ‘functions’ (roles) of the diskette - unit. The duality “equipment (hardware, ‘matériel’)/ software (software ‘logiciel’).

Two aspects define working - calculating - with the computer.

a. Equipment.-- This is the totality of its material components: electromechanical and electronic parts, cables and circuits for electrical power and interconnections,-- a central memory and auxiliary memories,-- input and output organs for information.

b. Software.-- This includes the totality of programs and associated documentation material (such as manuals, flowcharts for computer operation).

Ph. Davis/ R. Hersh, *L’univers mathématique*, Paris, 1985, 365/369 ((Modèles, ordinateurs et platonisme), points out that real informatic arithmetic (working with a computer) includes both aspects : only if both equipment and software are perfectly in order - which is far from always the case - , then one can expect from a computer “the absolute truth”.

The five aspects.

According to Dr. L. Klingen (Helmholtz-Gymnasium, Bonn), computer science includes five aspects:

- a. understanding the use of the equipment;
- b.1. understanding the core of the thought process, the algorithm;
- b.2. structuring the data (information) to be entered;
- b.3. applying it to concrete cases (applicative models);
- c. shielding the data from intruders.

The difference with the washing machine.

See EO 161.-- The automatic washing machine can act as a model.

a. Similarity. - According to that model, the computer also works : input / processing according to a program / output (dynamic, information processing system).

b. Difference.

- 1. The automatic washing machine is to a large extent pre-programmed.
- 2. The computer is much less pre-programmed. In other words: the user can - to a certain extent - build a program himself, i.e. program from a problem to be solved.

Programming.

Define we: 'programming' is transforming the given and requested - collectively called 'problem' - into a logically correct sequence of elementary (irreducible) - for the type of computer used 'understandable' - steps.

In other words: forming an algorithm (EO. 160).

Practical: the entire process must be gone through! From the moment we start thinking about the problem until the final program runs smoothly on the computer.

The pure translation work into the programming language is only a small part of this (P. Heinckens, *Programming is more than typing*, 69).

Programming is done primarily on paper.

One does not jump directly to the computer! First you go to the desk, take a pen and paper. That too is already programming. This is done in its own way called "structured programming".

Note.-- In other words: beyond all informatics, one begins by simply thinking logically about given and requested. As it has been done for centuries.

The herodotean method.

In *Historia* of Herodotos we note two aspects.

a. History.

Latin *inquisitio*, inquiry.-- This step produces the unformed substance, the loose materials or 'data'. In ancient rhetoric this is called 'heuresis', lat.: *inventio*, invention. Herodotos obtains the information from his own contemplation or also from stories of eyewitnesses ("hearsay").

b. Logos.

Lat.: *textus*, text.-- This is the formed substance. -- In ancient rhetoric, two aspects are distinguished therein:

- i.** 'diataxis, lat.: *dispositio*, arrangement;--which is the structured arrangement of the parts of the text - steps (the plan of the exposition in the first place);
- ii.** lat.: *elocutio*, stylization, design; which is the planed formulation of what one has to say, the stylized "message" So it is still with good programming!

Problem / algorithm / program. (185/187).

We explain this order.

a.-- Problem.-- The data, present in the data, provokes the demand. One analyzes it.

b.-- Algorithmics.-- "Algorithmic thinking is the hard core of computer science" (H. Haers / H. Jens, *Computer Science and Computing in Education*, 933).

An algorithm - we repeat - is a definition.

1. A definition is the articulation, long or short, of the content of a concept (EO 08). The rule has been, since the mid-century thinkers: the whole content and only the whole content! In other words, speak in such a way that the concept is distinguishable - discriminable - from the rest of reality. It consists in enumerating the essential features that make up the concept.

2. The algorithmic definition is done in the form of a scenario or sequence - an enumeration - which includes completely (all the content) but exclusively (only all the content) the irreducible events - "assignments". One knows the pairing "nominal and real definition" (EO 12) which, here certainly, comes in handy.-

One also takes into account "axiomatic definition" (EO 141: theorems in small number concern some domain of reality that they "define").

Conclusion.-- The steps of the algorithm are thus 'defined'.

c.-- Programming.

This is the translation work towards a programming language. There are several computer languages like this.-- A 'program' records what the programmer wants the machine to perform, i.e., a logical-strict sequence of 'commands' (EO 182: 'information'), 'instructions' 'commands! The names of computer languages are e.g. Elan, Pascal, Logo'. The computer 'understands' them, i.e. it is suitable for them.

Algorithmic types.

The "top-down" method on algorithm applies the Cartesian method (EO 160): the totality -- all (collection)/ whole (system) in platonic language -- is broken down into a number of irreducible, smallest elements and immediately formulated in such a way that a conclusive set of unambiguous assignments from the initial situation leads to the final result.-- The opposite method is called "bottom-up" method.

Further structures.-- For example, there are three.

a.-- Iterative algorithm.-- The monotonous repetition of the same thing! Model: a, a, a, EO 141 (Mathematical definition by "mathematical induction") gives us an example of this : $1+1=2$, $2+1=3$, $3+1=4$

Appl. model.

One wants to get a list of twenty names from the computer's name store - memory: one presses "enter a name" twenty times.

b.-- Sequential algorithm.

The non-sentient order! Model : first a, then b, then c, ...

Appl. mod.-- Making coffee in the computer:

Initial situation, 2. I go to the coffee machine, 3. take the coffee pot, 4. walk to the tap, 5. fill the pot with water, etc.

c.-- Selective algorithm.

A plurality of possible choices! Model: if model, then yes; if counter-model, then no.

Appl. mod.-- Pension calculation by computer.

Does entitled person belong to a category (worker, employee, self-employed, etc.) yes or no? If yes, then model. Has the beneficiary had a full or incomplete career yes or no? If yes, then model. Etc.

Thinking Skills Question (187/189).

1 Handling a computer,--especially programming, requires thinking skills, i.e., a form of applied logic.

1.-- The type of “thinking skills.

According to E. De Corte/ L. Verschaffel, *Learning to Program*, 12/14, programming is governed by three prepositions. Solving a problem requires them.

1.1.-- Basic insights.

The authors call this “domain-specific knowledge.” That is: to possess the necessary and sufficient data concerning a domain.-- This is the “historiè,” the tracing of the data, of Herodotos.

Appl. mod. Who wants to solve by computer a legal question (such as a divorce), should be legally - the domain - well informed: legal concepts, legal texts, judgments, etc. should be known; -- the file should be known.-- One compares with the “true propositions” concerning “a domain” in the axiomatic deductive method.

1.2.-- Order (harmology), logic, method theory.

This, with Herodotos, is the ‘logos’, the orderly exposition.-- The authors call this: ‘heuristics’. Proceeding methodically in the search for solutions they call ‘search strategy’. Thus e.g. the “top-down” method or its inverse, the “bottom-up” method, which concern the totality and its parts (the ancient stoicheiosis). Thus e.g. using diagrams. Thus: taking an analogous problem as a model or, on the contrary, thoroughly unraveling an aspect (the latter is generalization, the system induction : EO 99; -- 95).

As an aside, the “top-down” and the “bottom-up” are similar to EO 81: the dietary-synagogical method.

2.-- Self-knowledge (introspection).

The authors call this ‘metacognition’, Cognition’ meaning ‘knowledge’. This is, here, the data plus the structure given to the data (algorithm).-- EO 176 (Meta-language; 173) taught us that ‘meta-language’, is “language over language”. Thus, ‘metacognition’ is “cognition of cognition”. Looping or reflexive (EO 158) knowledge. Knowledge that knows itself. By “looking into one’s own heart” as the poet says.

“Am I, who program, indeed a reality-based (“objectively minded”) and logical human being? Or am I proceeding irrationally? Do I have preconceptions,--’axiomata’ “which cannot be touched”? How far does my memory reach? How far does my power of induction reach? In other words, to what extent am I master of the problem?”.

The boundedness of computerism.

Bibl. sample.: *Cedos, Cerveau humain* (“(maman, enco un miscui!”), (Mom, another biscuit!) in: Journal De Genève 19.12.1990.-- The fact.-- A two-year-old baby recognizes in the blink of an eye a cookie that barely shows its edge - in the opened packet. The most powerful computer -- at least for the moment -- fails to do so.

The Indication. This indicates that the baby in question:

- a. is a living being (living beings are very intuitive),
- b. gifted with spirit,
- c. mind that needs only a minimum of observational data to recognize something.

The computer is and will remain an inanimate, spiritless machine that lacks the intuition of life and spirit.

In the midst of a number of computer drunks, a number of people remain sober! So Prof Weizenbaum (Massachusetts Institute of Technology).

On the fact that at some “universities” in the USA every student must have a microcomputer, Weizenbaum responds as follows.

1.-- Not everyone in the USA agrees.

For example, the physics department of the M.I.T. has refused the strong expansion of computer facilities for students. Reason: to emphatically avoid viewing the subject matter exclusively - note the modality - from the question, “What can be programmed from it?” In other words: avoiding one-sidedness.

2.-- Very much can be learned in a very good way without a computer. In particular: the learning material does not need to be ‘adapted’ to the computer. However, the computer - preferably where it is really superior (EO 162: The human ordinator) - is used as an instrument Cfr H. Christiaen, *Computer in the classroom*, 645.

D. Jeanmonod, *Le bluff technologique* in: Journal de Genève 18.03.1968, in a commentary on Ellul's *Le bluff technologique*, says: "One must think in terms of algorithms, i.e. in a set of unambiguous commands.

But, when one is so completely molded in that way of thinking, one is totally closed to any other form of thinking." Ellul calls this "computer terrorism," which penetrates even to the unconscious and subconscious layers of the soul.

Again: warning against isolation of the mind!

Conclusion.-- Algorithmic programming is

a. one possible update of an ancient method (the magic formulas are structured this way),

b. but it should be aware of its limits.

There is system and system.

Works such as Leo Apostel et al, *De eenheid van de cultuur* (The unity of culture), (*Towards a general theory of systems as an instrument of the unity of our knowing and acting*), Meppel, Boom, 1972, attempt to expose the very large scope of the concept of "system.

Long before that, von Bertalanffy,-- Boulding, Gerard and Rapoport founded -- in 1954 -- The Society for General Systems Research. *Von Bertalanffy* came to the idea of "a general systems theory" as early as +/- 1937.

In his *Robots, Men and Minds (Psychology in Modern World)*, New York, 1967, he opposes the 'reductionist' view that seeks to interpret all systems downward as merely mechanical. That 'reductionist' view comes only to "the robot model of man" - he says - , not to man in his fullness.

Man can be referred to as "a system." But then a "system that knows signs supported by agreement,--with "language" in the human sense, that knows conscious appreciation, that knows conscious action. Man is a system, yes, but a system which is far above the merely biological systems (e.g. all plants and animals) and much more above all inorganic systems (stones, merely chemical processes,-- machines of all kinds).

Conclusion.-- Von Bertalanffy 's general systems theory has levels or gauges concerning reality.

Retrosynthesis.

We saw that stoicheiosis or analysis of totalities (sets/systems; EO 52; -- 45 (henology)) played a leading role in archaic and ancient thought.

Bibl. sample.: B. Feringa/ R. Kellogg, *Decomposing into factors* (Nobel Prize in Chemistry 1990), in: *Nature and Technology* (Natural Science and Technology Monthly) 58 (1990): 12 (Dec.), 832/839.

Organic chemist Elias J. Corey, called “the most prolific organic chemist in the world” by college students, received the Nobel Prize in part for his “retrosynthesis.

‘Retrosynthesis’ is a chemical method that
a. from simple building blocks b. to create a complex molecule. In doing so, the chemist uses the computer to figure out the most appropriate prescription for a molecule being sought.

a.-- Synthesis.

Corey, with some twenty collaborators, worked on the formation of gibberellic acid (a structurally very complex plant hormone) from simple elements (often compounds with carbon atoms).-- Which leads to the manipulation of biological kenctracles.

b.-- Retrosynthesis.

Corey broadened the synthesis method.

a. Complicated structures he methodically decomposed into smaller building blocks. Cfr “top-down”(EO 186).

b. With such constituents Corey then works in reverse (cfr “bottom-up”): he resynthesizes.-- EO 160 (Cartesian stoicheiosis) taught us that scheme!

Here Corey involves the computer, namely the Lhasa type (Logical Heuristics Applied to Synthetic Analysis), frequently used in university and industrial laboratories around the world (think drug research).

Corey has been actively working on this at Harvard University since 1959 -- it is precisely this computer logic -- understand: applied logic -- concerning synthesis that was one of the main reasons for his Nobel Prize.

Total synthesis.

The creation of natural substances, starting from simple molecular components, is called ‘total synthesis’. ‘Natural substance’ is an organic compound of natural origin. The atoms from which a hormone or an antibiotic is ‘combined’ (EO 46; 151; 157),-- their interrelationships and interactions, the functional groups in them, the spatial structures,-- all this comes into play.-- Step by step - algorithm - one decomposes into ‘synthones’ (final building blocks).

That’s “retrosynthesis” -- The archaic-antique “stoicheiosis” is apparently still a valid method.

Appl. mod.-- Corey thus synthesized ginkgolide-B, a complex compound found in ginkgo biloba (the Japanese nut tree),--used in Chinese phototherapy against asthma and inflammation. This was done in thirty-seven steps. Algorithmically!

Neuronal network.

Since 1960, information researchers (USA, Japan, Switzerland) have been experimenting with a new type of ordinator, namely neuron networks. A “classical” ordinator contains a program (microprocessor and a neuron network does not.

1.-- Original.

The human brain contains about a hundred billion neurons (a ‘neuron’ is a nerve cell with neurite and dendrites), which interact with each other, thanks in part to ‘astrocytes’.

2.-- Model.

That paragon attempts to approximate (= simulate, mimic) the neuron network. The network contains no ‘program’ but rather a set of ‘elements’ - artificial ‘neurons’ - that interact with each other, electrically in nature. And this with a sensitivity threshold susceptible to change.

Appl. mod.

Given: a network; requested: as a command, ‘instruction’, ‘command’ one gives “Look up the word ‘cookie’ in a text”. To this the network responds somewhat like a human: the more a word resembles ‘cookie’ that it seeks, the more it becomes “electrically excited”.

Conclusion.-- The algorithm, peculiar to the classical ordinator, is transparent. The algorithm in the neuronal network strikes specialists-electronicists, neurobiologists, psychologists-as bizarre, eccentric.

The neuron networks are suitable for key phenomena of robotics - ‘robot’, a Czech word, means “artificial human” - as e.g. artificial looking and word processing.

Note -- EO 184 (Software), 185 (Programming) are partially revised by this: one could speak of “flexible programming”!

The automatic washing machine is

1; the classical ordinator is

2; the neuronal network is

3: pre-programming, programming, minimal programming seem to be the right terms for a not-quite-ending evolution in the systems engineering that makes computers.

Sample 24.-- holistic ontology: the deductive method. (192/208)

The beginning of all “truth” is the direct showing of what is.

Phenomenology adheres to this beginning, for it reflects what shows itself directly to the conscious human being,--i.e., the phenomenon.

Reasoning - deduction, reduction (the latter including in the form of induction) exceeds, logically rigorous and therefore ‘real’ (i.e. reality-based), all that shows itself directly. It is transphenomenal. And in the sense that our consciousness becomes aware of an initially transphenomenal reality. So that reasoning actually turns something transphenomenal into a ‘phenomenon’, because through reasoning it “shows itself”.

We will now check this briefly in the case of deduction.

The sentence (statement, judgment, proposition) in itself.

Bernhardt Bolzano (1781/1848) was a thinker who was intensely concerned with logic and mathematics. He is known for his *Wissenschaftslehre*, 4 dln., 1837. With which he becomes - with George Boole (1815/1864) - one of the founders of pure logic.

Logical thinking is not a matter of psychology, sociology, culturology.

Working logically is radically different from applying a set of assumptions specific to an individual (psychology), a group (sociology), a culture (culturology). Such is at best applied logic!

On the contrary: with the great tradition from Parmenides of Elea onward, Bolzano conceives of judgment as an operation independent of the thinking subject or thinking mind, whether that thinking subject is an “I” or a “we” or a set of “cultural values.

So for Bolzano, logic and e.g. psychology (sociology, culturology) are thoroughly different things.

Appl. model.

“It is raining” is a sentence in itself, because there is a subject (original) and a saying (model) such that ‘it’ is clarified with information (= model), i.e., ‘rains’. Whether an ‘I’, a ‘we’ or a ‘culture’ thinks this or not, does not matter!

The structure “original (subject/model (saying))” is there, is there by itself, independent of any other being. As Parmenides said, “It (being or reality) is there according to itself (not according to anything else)” “Kath’heauto” in ancient Greek.

The hypothetical sentence in itself.

a. The categorical sentence expresses something without preposition, without modality even in many a case. Thus: “Four is; - in some cases (“e.g.”), one plus three”. Or : “Four is - in all cases - four”. The latter is a law (EO 25: Law of Identity), i.e., a sentence that knows no exception, - is universal, yes, transcendental (all-encompassing). Unconditional and thus a purely categorical

b. The hypothetical or conditional sentence is a full sentence, i.e., a main clause and a minor clause. As a model: “If $1 + 3$ or $2 + 2$ or $3 + 1$, then 4”. Understood: “If Peano’s axiomata (EO 140), e.g. concerning ‘sum’, are true, then $1 + 3$ or $2 + 2$ or $3 + 1 = 4$ is also and immediately true”.

Reason: the sum of $1 + 3$, $2 + 2$, $3 + 1$ is characters again an application of the general rule of aggregation or ‘sum;’. Or in terms of Jevons-Lukasiewicz: if A (rule), then B (application); well, rule; therefore application. This is deductive thinking.

From the evidential or ‘phenomenon’ ‘general rule’ one arrives at - from it one deduces - the initially transphenomenal ‘application’, which is thereby found ‘evident’ or as true (‘apokalupsis’ or ‘aletheia’, the ontological ‘truth’ or ‘revealing’). Cfr. EO 62 (Aletheiology).

Note.-- In the vernacular,-- in all natural languages the condition may be understated. Thus: “In this case (= if such occurs, then) I will come”. Or even: “Then I will come”.

“To lie is to be punished” is a subject sentence (the infinitive ‘lie’ is subject), but in a number of situations (which are evident from the context.), in the subject, a condition is latent: “If thou liest, punishment cometh of it”. “All who lie get punishment”: the relative phrase “all who lie”, covers a condition in a number of situations, i.e. “If one lies, then one gets punishment.

Among the adverbial phrases, the tenses can cover a condition several times: “Whenever one lies, punishment comes of it” (= “If one lies, then ...”).

The participle or part (= having the value of an adverbial, in this case conditional sentence) often covers a condition: “The lying one gets punishment” is: “If someone lies then”).

Conclusion.-- Well-practiced speech discovers such things!

Preposition / postposition

Bibl. sample : Ch. Lahr, *Logique*, 509.-- “The thinking operation which consists in deriving from one or more prepositional phrases - in a logical way (Bolzano: as phrases in themselves) - one or more postpositional phrases, is reasoning.”

One sees it: the hypothetical sentence, if after Bolzano's manner, denoted as a logical thought operation, is at once a reasoning.

EO 73 showed this phenomenon as fundamental in Platonic thought. Specifically: the prepositional phrase expresses a condition, a presupposition, a "hypothesis" or "assumption."-- This is the core of all traditional, "classical" logic: to infer from prepositional phrases!

"Unreal Prepositions".

Even unreal prepositional phrases can, in logic (and in logistics), be processed as "sentences-only."

With Rescher (a logician), one can distinguish types.

1. The problematic preposition.

"If, against an established opinion, we assume that .

2. The paradoxical sense.

"If, against an obvious or taken as such opinion, we nevertheless assume that .

3. The false preposition.

"If, against the wall-solid truth, we nevertheless assume that .

Logic, in other words, is not epistemology: whether the preposition is epistemologically (knowledgably) testable ('verifiable' in a recent parlance) does not interest the logician as a logician, for he takes the nominal definition (EO 12) of "the sense-in-itself and only of "the sense-in-itself". If all men are mad, what follows purely logically from that? This is how the pure logician reasons.

The deductive reasoning (194/195).

Take Peirce's famous example.

preposition / postposition. All the beans in this bag are white and this handful of beans comes from this bag. So this handful of beans is white.-- These seemingly - logically speaking - categorical sentences cover a reasoning: "If all the beans in this bag are white and (if) this handful of beans comes from this bag, then this handful of beans is white."

Note.-- The proof from the absurd.

In Aristotle's language: 'ap.agogè', lat.: abductio.-- One also says "reductio ad absurdum", reduction to the absurd (cfr EO 26: Law of Incongruity).

This is one type of deduction. In particular: this deduction employs a dilemma, i.e., reasoning that is dichotomous but ends in the same conclusion.

According to D. Nauta, *Logic and model*, Bussum, 1970, 27v., the paleopythagoreans - between -560 and -350 - knew the proof from the absurd: "The most beautiful achievement of the pythagoreans is that they proved that it is impossible - incongruous, non-sense, "absolute nothing" - to find a rational model (a fraction) for the square root of the number 2 (sq2).

That is, for the number whose square (square number) is 2. (...).

The finest example of a proof from the preposterous from antiquity”. Behold the applicative model. Now the regulative model. The author continues . “In a proof from the absurd, one assumes - EO 194: Unreal prepositions) - that a counter model exists. That is, an ‘instance’ (example) that satisfies the particulars of the problem but not the requested one (that which is to be proved).

In a systematic way, one then shows that such a counter-model cannot exist, in that it leads to incongruity or contradiction.

It is then proved that every object that satisfies the data must also satisfy the demanded”. So much for what D. Nauta says about the essential nature or structure of the proof from the incongruent.

In other words, to show that the model -- that which is provable,-- that which is real -- is real, one takes the detour of proving that the counter-model is radically unreal. Since in doing so only two choices are valid -- that is the dilemma -- the unreality of the one (counter-model encompasses the reality of the other (model). Now, proving the reality of the other was the requested thing.

Note.-- An example is found in EO 80 (Platon’s historical dialectic): if the possessor is not at mind, then duty is not to return the weapon that is dangerous in his hands! Which contradicts Kefalos’ definition of “conscientious return” yet return is ethically absurd. But such incongruity follows logically from the (incomplete) definition of “righteousness” (= conscientious behavior) that Kefalos advocated.

Cfr also EO 64 (Disinclination); EO 57(Analogous reductio ad absurdum from “Expertise is Good”).

Note.-- *The “argumentum ad hominem”.*

Reasoning that is “played out against the human being (the interlocutor)”.

Structure:

Sent. 1: Thou claims p.

Sent. 2: Well, p logically leads to unacceptable (sometimes absurd) conclusion(s).

Concl. : So p (= what you claim) is unacceptable.

There is a structural similarity to the argument from the incongruent.

Appl. Mod.: the computational account (196/197)

EO 183: the computer system and what goes with it are briefly recalled.

Bibl. sample.: Ph. Davis / R. Hersh, *L' univers mathématique*, Paris, Gauthier - Villars, 1985, 131.-- The text in question touches on one of the basic propositions of computational thinking.

1.-- The running or "readable" mathematical text.

a. The premise of the present rigorously mathematical text is that it is at least formalizable (EO 161) in the form of, e.g., at least one art language.

b. In fact, ordinary textbooks of mathematics contain at most portions that are formalized, because "they are written in French, English, or other languages of manners"! After all, they are to be read by "human beings."

Indeed: a purely formalized text is invariably embedded in a natural language that explains, at least, what the signs can mean,--what the editing signs can want to say. The artificial or artificial language par excellence -- according to proposers -- is the cantor set theory.

2.-- The ordinator.

One application - according to Davis and Hersh - of formalized text is the program (EO 185) of an ordinator.-- To program an ordinator - to make it usable, e.g., to test arithmetic in an enterprise - one must

a. know graphism (EO 156), i.e. vocabulary (all possible signs) or vocabulary of it and

b. master the syntactic rules (EO 161), i.e., the grammar that structures vocabulary.

Appl. mod.: the simulation game.

Bibl. sample.: A. Crattenand, *Colloque scientifique: Eh bien, jouez maintenant*, (Scientific symposium: Well, play now), in: *Journal de Genève* 31.07.1987.

Fashions follow each other in rapid succession in the computer world! After the mode of the audiovisual and that of the microcomputer, the mode of the simulation game (especially in the USA) -- Economists, structural engineers, military personnel are busy practicing it.

1.-- The basics.

A small program to logically calculate strict probabilities.-- For example: a politician's chances of getting elected.

2.-- Further conditions.

Preferably explicitly -- included elements the computer calculus does not know -- all factors (EO 53 (Factor Analysis); 67 (Element/Presupposition) or 'elements' that influence -- 'determine' -- e.g., an election -- such as the electoral district (city, town, etc.),-- the parties and its supporters, the role of women, of religions, etc.

Now reread EO 94 (The inductive method).

Do we take the full number of elements or factors that influence an election: how many factors escape us? In other words: the eternal tragedy of our ontological or reality knowledge is that of a collection (e.g. voters) we know only a sample and thus have to incur the risk of generalization. In fact, the holistic or total character is never there!

Consequence.-- No matter how solid the program of your computer may be, your knowledge of all the factors puts a crimp in the calculation of e.g. the election probabilities.

Not without some humor, A. Crattenand, a.c., writes that the interested person has only to play, understand: to deduce. For (he says) the program is such that it gives the logically achieved results - if all factors, then the probabilities as 'output' or drain.

The name of the professional science of such axiomatic-deductive "arithmetic" is: audiovideomatics. Core: the hypothetical method applied to the ratio "factors/probabilities". With as middle term between the two the program, which works axiomatically-deductively.

Appl. model: the axiomata of ethics. (197/208)

To be sure, reread EO 137 (the structure of the axiomatic-deductive method).

- a. The particular area of reality is, here, conscientious or "righteous" behavior.
- b. All propositions that pertain to that ethical or moral field must be "true," i.e., exposed reality (not reflecting illusory or sham reality).

Bibl. sample.: R. Van den Berghe, *Veritatis splendor (Presentation and evaluation)*, in: *Collationes* (Vl. Tijdschr.v.Theology and Pastoral) 24 (1994): 1 (March), 79/100.

Theme: the encyclical *Veritatis splendor* (05.10.1993) a very controversial document dealing with the basic presuppositions or axiomata of morality as traditionally understood by the Catholic Church.

The traditional-Catholic position.

“According to traditional Catholic moral theology - note: ‘theology’, i.e. theology or theology insofar as it deals with conscientious behavior - there are four ‘sources’ of morality:

- a. the object,
- b. intent,
- c. the circumstances and
- d. consequences.

When an act is to be judged on its moral content (understand: how moral or conscientious is it and how is it conscientious; EO 09 (Existence and essence),-- 25 (Is, is so)), one must bring in the share of each of these ‘sources’:

Notes:

a. The term “circumstances” is used here in one narrower sense because, in a broader-more common sense-intent and consequence are also “circumstances.

As an aside, the traditional term “circumstances” reappears in more recent parlance under the name “situation,” for what is “situation” other than the whole or totality of circumstances?

b. The term “sources” can be replaced by presuppositions or axiomata, Indeed: from these four sources the Catholic tradition deductively deduces the morality - the conscientiousness - of an act.

c. The whole set of “object/ intention/ circumstances/ consequences” makes up the truisms or recurring concepts of traditional-Catholic morality.

A “commonplace” (lat.: locus communis, -- gr.: topos koinos) is something to which, while thinking or acting, one falls back again and again.

d. If the sentence “An act is conscientious” can count as the basic sentence concerning conscientious behavior, then the “sources” or “platitudes” are the modalities within that basic sentence (EO 36): “An act, if object and/ or intention and/ or circumstances and/ or consequences do not involve a reservation (restriction), is conscientious. Subject and saying become different under the influence of one modality or another.

The decisive role of the modality ‘object’.

“The first and main input - says Van den Berghe, a.c., 96 - always comes from the object. When this object is ‘bad’, neither the intention (= intention) nor the circumstances nor the consequences can make the act ‘good’.”

Appl. model.- The act of “killing someone” is by its object itself “bad. Axiom in support of this: “Biological life is the valuable par excellence,

(at least for most people, as there are exceptions: martyrs, suicides, suicide bombers-for-a-cause (think of the Japanese kamikaze pilots in WWII (1940/ 1945))).”

One sees immediately that the axiom is not a radically universally accepted proposition or judgment!

What the ecclesiastical authorities actually want to say by asserting that “when the object is bad, neither the intention nor the circumstances nor the consequences make the act good,” is that fundamentally, i.e., purely abstractly-axiomatically, man, insofar as he really wants to act conscientiously, is obliged in conscience (not merely outwardly) to respect (biological) life as inviolable (i.e., what can be but may not be violated) as “sacred,” as “taboo.

Put differently: to deny that axiom in principle-axiomatically - consciously suppressing or unconsciously repressing (‘parafrosune’, in platonic language) - is intrinsic, i.e. in its deepest nature of being (‘ousia’ in platonic language, i.e. in its existence and essence), unscrupulous, ‘bad’, ‘angry’. Whereas principled-axiomatic life respecting is intrinsic, essential, good.

This is the law: to respect life insofar as it is life, as a value in itself, is always and everywhere good; to disregard life insofar as it is valuable in itself, is always and everywhere bad.-- Whoever may doubt this, puts forward the counter-model, namely, to hold as an axiom or principle that life has no value from any point of view!

“Thesis / hypothesis” (John of Salisbury). (199/201).

This Latin humanist with very broad culture and life experience lived +1110/ 1180,-
- published the first comprehensive state theory of the Middle Ages (Policraticus).

None other than the (post-)structuralist Roland Barthes, in his *L’ aventure sémiologique*, Paris, 1985, 143s., cites a systechy or dichotomy that has continued to live on in ecclesiastical middens and - what is more - that we will examine here as fundamental.

1.-- Thesis (positio, proposition - in - abstracto).-- This is the pure concept without any modality. Thus e.g. - says Barthes - “It is valuable to marry”.

2.-- Hypothesis (cause, singular-concrete situation).-- “Is it - says Barthes - valuable for Anita to marry”?

One of the meanings of ‘hypothesis’, in texts on theater, is ‘scenario’, ‘story’ (in short). This is to inform the reader or viewer about the headline, i.e. the starting situation.

Do we go into that:

a. the modality-free sentence reads, “Marriage is a ‘good’; (EO 44 (Transcendentalism); 49 (Transcendental ‘goodness’); 56 (Being and the good); 69 (Axiology)).

b. the modality-addressed ethical sentence reads, “Marriage - for Anita - is (possibly) good.”

The first sentence is a principled sentence; the second is an applicative or application-containing sentence.

Everything now depends on the conceptual content of the modality ‘Anita! Stated: Anita wants monastic words! Stated: Anita has an illness.-- Such ‘circumstances’ are modalities that override the value judgment concerning the expediency or meaningfulness of her marrying.

In other words: to the singular concept ‘Anita’ belong forms of restriction or reservation. However good marrying-in-itself, as an abstract value, may be: marrying-for-Anita is “good-with-reservations”, “good-with-modalities”. Marriage, abstractly, is good-without-restrictions; marriage-for-Anita is good-with-restrictions.

The first case is transcendental applied to one category (marrying as a value); the second is also transcendental but applied to a category (Anita with her modalities) which the category ‘marrying’ reserves. Cfr EO 10 (Transcendental/categorical). So much for the pure ontological foundations.

Wandering Conscience.

The ABC theory (EO 132) - if A (given) and (subjective modalities), then C (behavior) can clarify here.

Suppose Anita has a strong prejudice - possibly determined by the failed marriage life of her parents - against marriage. In that case, marriage will rather represent an unworthiness for her. In this she exaggerates and is ‘unreal’ (estranged from the value in itself which is present in marriage).

In ecclesiastical language, this is called “errant conscience.” She sincerely believes that she is right.-- When such an errant conscience is present -- in B (subjective modality or “bias”) -- then -- the Church says -- such a conscience must be followed “in conscience. At least when this errant conscience is “innocent” (we are partly responsible for the formation of our conscience).

Which does not mean that we equate an errant conscience with a “true” conscience: it is not equivalent to a “true” or “real” conscience. Hence the high duty to further form our ethical notions in a ‘continuing’ formation.

Biblical model.-- The Biblical prototype of errant conscience is Abraham.-- Gen. 22:1/19.-- The scenario or “hypothesis”: “God” (= Yahweh) commands Abraham to sacrifice his own, only son Isaac; he leaves for Moriyya,-- prepares wood and fire there,- - places Isaac on the altar,-- grasps the sacrificial knife, but “the angel of Yahweh”: (God himself in an appearance) cried out, “(...). Do not harm him! Now I know that you thoroughly respect God (...)”.

Abraham had to follow his untrue, unreal, conscience “in conscience” (in the vernacular: he knew of nothing better). Which does not prevent the angel of God from pointing out the erring character.

As an aside, what was Abraham’s intent? To kill? No! Killing to obey God! Religious obedience was the very object of his will. Ritual killing--an archaic custom--was one modality: it worked, normally, as a caveat, naturally,--also for the rite.

But decisive for Abraham was to carry out God’s will,-- the very object.

One sees that the proper determination of “the object” - when that object is not treated in abstracto - , must take into account the other “sources” of morality (intention, circumstances, consequences).

EO 81 (The diuretic-synoptic method) taught us that, in reality to the fullest, the concepts are intertwined. This is the core of the platonic ‘dialectic’ (that stoicheiosis or factor analysis which takes into account not only the abstractly separated concepts but also the *sumplokè*; concrete reality)

In particular: without the modality “God’s will” Abraham’s killing is killing,--at most ritual form of it; with the modality “God’s will” that (willed) killing is an act of religion!

The sources of morality - object/ will/circumstances/consequences - intertwine as soon as one enters the concrete reality of every day. Platonic: they are dialectically intertwined and determine each other.-- Which sometimes makes things extremely complicated, of course. Assessment can sometimes be impractical for our poor human mind.

The intent above all is a deduction.

When Anita, ill, decides not to marry -- for her, marriage is rather an unworthiness -- it turns out, upon logical dissection, that this act of freedom is in fact based on a reasoning, -- however implicit (unspoken) that reasoning may be.

1.-- Life is, in its ground, logical, applied logic.

J. Anderson/ H. Johnstone, *Natural Deduction (The Logical Basis of Axiom Systems)*, Belmont (Calif.), Wadsworth, 1962, 3, says: one way to study logic is to investigate - herodotean 'historiè' lat.: inquisitio; - platonic 'theoria', fathom - how in fact our acts of life proceed logically. Especially - according to theorists - when we want to prove something. "Generally speaking, we prove a (true) proposition concerning a domain by demonstrating - phenom - that it is a deduction from prior propositions."

2.-- The free or unfree decision is invariably a deduction, (202/208)

In the system of moral sources - object/will intention, circumstances, consequences - the decision sticks in the intention. There it shows itself. But its presuppositions often remain hidden. Transphenomenal.

Therefore: let us for a moment inquire into these hidden presuppositions (alètheia, apokalupsis, revelation or 'truth').

a.-- Justification.

Either civil for the reason of violation of common law or military for the reason of flagellation or spying: execution is, among other things, killing. But the real object of the intention is to safeguard community interests: some form of "common good" is meant. The mere means to this end is killing as the only way out.

Without the modality of "danger to the community," execution is killing; with the modality of "danger to the community," it is safeguarding the common good.

And now the justification or logical proof.-- "In the name of the common good" the judges act when sentencing to death and the executioners when executing. Or: if the common good is a higher value and (if) this man / woman is a threat of a very serious nature to that same common good, then a judicially arranged elimination by killing is an act justified in conscience. And thus morally 'good'. Even if those responsible do not make this reasoning explicit, it is there in depth: expressed in a modal sense it gives this: "The killing of a human being, -- in principle (in the abstract) impermissible, -- is, in fact, in conscience, permissible in view of his/her danger to the environment".

One sees that John of Salisbury's systechy or dichotomy - 'thesis' (principle, abstract value)/ 'hypothesis' (actual set of circumstances) - is a truly applicable dichotomy.

b.-- War death.

A bombardment,-- especially a hand-to-hand combat with the bayonet,-- a guerrilla war,-- they are killing activities "in the name of" some general welfare or community interest. Check for yourself what the object is right in such a dialectical framework.

c.-- Machiavellian killing.

Niccolo Machiavelli (1469/1527; distinguished Renaissance humanist) is known primarily for his *Il pincipe* (The Monarch: 1532). Il pincipe is first of all a positive or stilted description,--not a moral treatise: Machiavelli depicts how, in fact, many monarchs and rulers pursue the goal, the good of the state -- assertive behavior -- if need be by getting rid of inconvenient persons (including by killing,-- e.g., by assassins).

But Machiavellianism is in fact much broader than mere state Machiavellianism: patrons of corporations, party leaders, mafiosi, terrorists, fanatics in the service of one faith or another,--all of them, in time and place, apply out-of-the-way clearing by killing.

Among the fanatics, one can count the killing for sacrilege or apostasy as accepted - as permissible in conscience in advance - in Islamic circles.

The killing is then done "in the name of the group and its interests." The sanctity of one's fellow man's life is sacrificed to the "sanctity" (sanctification or arabization, "absolutization") of group interests.

In this category, the three major forms of church inquisition (from the late Middle Ages, especially in modern times) apparently belong: witches, heretics, dissenters, dissenters were exterminated by (torture and) killing "in the name of the Catholic faith."

Thus also Jesus, following in the footsteps of many prophets, was taken out of the way by countrymen and fellow believers "in the name of the Mosaic law" by means of killing.

Similarly, Socrates was eliminated "in the name of popular interest."

Amid these positive descriptions, let us not forget axiomatic-deductive reasoning.

“Killing is, from its abstract essentiality (disregard, in principle, of life as a high value), not deducible as permissible in conscience, but, denoted in its entanglement with circumstances and consequences (recognition of e.g. community interests etc.), killing is, from that entanglement, deducible as ethically permissible.

The first part is a principled or abstract deduction from the axiom that life is value, high value; the second part is a situational or modal deduction from the interrelatedness of an abstract principle with singularly concrete circumstances (the outworkings or consequences included).

Of course, especially in the case of assertive (‘Machiavellian’) killing, the question arises, “To what extent is an errant conscience at work here or a cynical unconscionability?” In many cases, the answer to this cannot be given because we have too little data (information) on the subject (inductive nature of our information).

We skip here the discussion concerning the “reality” (understand: veracity, objectivity) of situational reasoning.

d.-- The lust death.

The sadist reasons, consciously or unconsciously: “Is life of the neighbor sacred in itself, my sense of lust following the killing (including torture) is, in my eyes, so ‘sacred’ that I consider killing-for-lust experience permissible.” The feeling of lust is a higher value than the life of the (innocent) fellow man.

Here “the object,” basis of ethical value judgment, is not the killing-in-itself but the lust-in-the-killing.-.

Note: An old scholastic-mid-century systechy or dichotomy reads, “material object/formal object.” -

(i) Material object. -- All that is without any interpretation or interpretation (semantic zero (EO 173)) is material, i.e., undetermined, object.

(ii) Formal object.-- As soon as our mind focuses on something unsullied, it introduces a point of view or perspective. This is then the formal object. -- Applied here: the killing in itself is material object; the hedonism (lust) associated with killing is the formal object of the sadist. The formal object determines the actual and first intention. The rest is “wanted in addition”.

Note: All cultures - from the archaic or primitive over the classical-antique and the middle ages up to and including the (post)modern - reacted with horror to aphrodisiacs. It is there referred to as “a profound aberration of conscience and behavior or perversion” whether it is errantly conscience in an innocent way (perverse predisposition e.g.) or in a guilty, cynical way.

Only a certain video culture apparently posits such a perverse axiom. From which it deduces that the shameless distribution - in the name of press and general communication freedom - of filming (accessible in principle also to immatures) is justifiable (‘justifiable’) in ‘conscience’.

The famous Marquis de Sade (1740/1814; radical and ethically consistent materialist), who advocated lustful torture as one of the highest values, is certainly no stranger to this. His works, although “forbidden” by church and civic authorities, were in circulation on a large, albeit hidden, scale and influenced many a “modern” writer or artist.

For the French materialists of the XVIIIth century, killing was “merely an advance form of what naturally becomes reality sooner or later anyway.”

The modal term ‘merely’ points to the ethical reductionism inherent in consistent materialists: nothing is ‘sacred’: why should life be sacred? This is the nihilistic variant of materialism, which ‘reduces’ everything venerated as holy to ‘banality’. Banalization is then also the ethical characteristic of a certain video culture. The Austrian-French psychologist Diel denounced this.

e.-- The satanic killing.

Here’s the axiom: “Satan and the satanic demons/demons are the ‘true’ deity that controls the cosmos. Serving those invisible beings is highest value. Well, Satan and the demons/demons regularly demand slayings of a ritual nature. So the Satanist(s) deduces the moral permissibility, yes, duty of ritualistic killing.

Those who want to know more about this, read e.g. D. Cellura, *Les cultes de l’ enfer (Satan parmi nous)*, (Les cultes de l’ enfer (Satan parmi nous)), Paris, Spengler, 1993. This work gives, on pages 183/186, a calendar in which the killings take a regular place, - - strongly mixed with eroticism (which has the same ‘intention’, i.e. Satan’s service). Not killing-in-itself-not sex-in-itself-but the serving of Satan and his spirits is the formal object.

Note: - As an aside, these barbaric practices, which have been around in recent years, vindicate a Johannine text! Engaged in a discussion with Jews, Jesus says, “By what means do you not understand my language? Because ye are not able to hear my word. The father “of whom ye are” (note: your inspirer), is the devil and you choose to accomplish what “your father” desires. He was a “man-killer” (“anthropo.ktonos”) from the beginning and he is not in the truth (op.: God’s insights) because there is no truth in him. When he lies (EO 173), he speaks out of his own nature of being, for a liar is he, yea, the arch liar.” (John B: 43v.).

As an aside: the expression “father of” is better understood if one starts from e.g. Genesis 5:1 (God creates Adam (and Eve) in his likeness) and 5:3 (Adam (and Eve) beget Seth “in their likeness, as an image (of themselves)”: the concept of “toledôt” (descent history) implies that “one has a nature after his own”. In other words: the Satanists “accomplish the will of their father”.

f.-- The ethnic-racist killing.

Those who know a little of the history of WWII (1939/1945) are still impressed by the “holocaust,” the brutal extermination by killing of Jews, Gypsies and other “races” by the Nazis. Millions of people were, by modern means, wiped out,--in the midst of the XXth century,--after twenty-six centuries of Hellenism and nineteen centuries of Christianity.

The “ethnic cleansing” in ex-South Slavia continues this brutal tradition in a re-founding manner.-- In the name of ‘Herrenvolk’..., ‘Greater Serbia’ and ... other entities! From which it is deduced that the killers have “the right” on their side.

g. -- The duel.

‘Duel’ is a duel to settle a matter of honor. The “American duel” involves one of the two parties, designated by fate, killing himself.-- “In the name of my honor” so says the dueling. Not without a good dose of “machismo” (manly honor).

h.-- Killing in lawful self-defense.

The Church,--all right-thinking people have referred to something like this as “justifiable in conscience”. “My life as an innocent attacked is worth at least as much as yours”; so I defend myself against you, attacker, by killing you first! Behold the reasoning. Both the equivalence of both lives and the inequality of those involved - one is an attacker, the other an innocent victim - play a role in this reasoning. As ‘axiomata’ from which is deduced.

i. -- Foeticide (“abortion”).

We situate this extremely hotly debated topic here because, in the minds of many a woman especially, it seems to be “a kind of legitimate self-defense ... against an ‘attacker’, i.e. the fruit received. However, this ‘attacker’ is obviously innocent and did not ask to be conceived!

In an analogous sense, this case runs into duel: in many a case, it is the honor of the woman in question that is valued higher than the biological (life of the baby-in-the-making).

More dramatic still is the case in which the woman, as a result of rape, became pregnant: there a type of “self-defense” seems to be at work but in such a way that the foetus takes the place of the attacker and “takes care of him. Those who know well the psychology of those involved,--that of the pregnant woman especially, know that “errant conscience” certainly plays some role here. For “that in whose name is killed” is very complicated.

j. -- Suicide.

There is the “ordinary” suicide (“One doesn’t see it anymore”); there is the ideological suicide (“I burn myself publicly to protest against (some injustice,--perceived or real).”)’ The latter is akin to the Japanese kamikaze pilot who dies “in the name of patriotism.”-- The errant conscience also plays a role here at times, for “one means well.

k -- The Blood Witness Death.

Instead of upholding the axiom of self-defense, the martyr/martyr - so highly regarded in Church tradition (they are venerated as “healing saints,” especially in the Eastern Churches) - allows themselves to be killed. While praying for their/ her persecutors, who “act in the name of some ‘political theology’“! The axiom of the blood-witnesses is twofold: they allow themselves to be put to death for reasons of faith or for reasons of conscience or morals. The same reason that the ordinary saints are venerated in the Church: they were “heroic” for faith (religious axiom and/or morals (ethical axiom). Faith, morals are higher values than biological life.

As *an aside*, the term “political theology,” which, in left-wing, often gauchist circles, had such a rise some time ago (Dorothee Sölle), is in fact an antique term.-- At one time they distinguished:

a. mythical theology

(EO 35: The Big Story), which expresses itself in myths;

b. political or ‘political’ theology

which is theology insofar as it brings up the foundations or axiomata of a state - e.g., a Greek city or the Roman empire - whether in myths or not;

c. natural theology -

“theologia fusikè”, lat.: theologia naturalis -- which was founded by the thinkers on the basis of reasoning (without therefore denying the myths or the state traditions).-- Christianity, for example, came into head-on collision with the political theologies of the then pagan world which did not like to see its deity world denied by the Christians ... who were willing to lay down their lives for it if necessary. The formal object of the persecutors was not life, but the lives of people deemed dangerous to the state. “In the name of the foundations or axiomata of the state”, -- the religious axiomata then” was acted upon.

l.-- Ecological killing.

Ecology” is the study of our living environment.-- Our - modern - environment can kill: work accidents, traffic accidents, poisoning of the natural and cultural landscape may cause a slow or rapid death.

Whoever is the cause of this is acting “in the name of ... what?” -- So the speeding driver: he reasons in such a way that he grants himself the “right”, in the name of speed enjoyment, in the name of work assignment (“The boss says I have to be there on time”), to create risks.

The manufacturer who either manufactures or markets harmful products does so “in the name of money-making economic values.”

Conclusion.-- EO 202/208 shows us how complicated the fifth commandment -- “Thou shalt not kill” -- is in its situational norm. Some cases are ethically sound and clearly assessable but others are virtually impossible to make out by people who have only inductive information (EO 97 (Socratic dialectic)). Things like “in the name of” and “formal object” seem to be of decisive importance here. As well as the pair of opposites “thesis/hypothesis” (John of Salisbury).

Sample 25.-- Holistic ontology: destiny. (206/219)

We return to the constantly recurring (phenomenological) starting point, namely that which shows itself, immediately or directly, i.e. without any intermediate term between our mind and the reality that shows itself. In the mathematics of questions this is the given.

It is no different with destiny or “destiny analysis” (Leopold Szondi): the given is again and again the situation in which we find ourselves - from moment to moment (our “thrownness” in the language of the existentialists); the demanded is our reaction or “response” to that constantly presenting situation (our “design” in existentialist language).

In passing: our life course is the collection of ‘steps’, resp. fates, which make up our lives. In it we find the formalism structure again which we found in the sensible solving of a problem (EO 160: Algorithm). Indeed: reacting (sensibly) to some situation in life amounts to finding a solution to a problem.

Actually, solving a mathematical problem is one part of our life’s journey that reflects in it its basic structure, which is to proceed in steps.

“It was bound to happen sometime.

Or still, “it came naturally.” -- We all know that phrase from the vernacular.

Appl. Mod. One day, in a workshop, a strike breaks out.

a. To outsiders this may be a surprise,--an unpredictable because not deducible from axiomata or postulates. occurrence.

b. For the ‘insiders’, those directly involved, however, “the tension was palpable”! The patron, adamant and stubborn, continued to refuse to respond with reasonableness to the legitimate demands of the staff. “The discarded workers stay out!” he said. But the comrades - headed by the syndicals - “won’t take that.

Consequence: from such a presupposition-in the thoughts-and-the-facts (“historical dialectic” (EO 80)) a strike becomes deducible: one morning the strike pickets are there! “it had to come”.

Conclusion.-- The strike is deducible from its axiomata: the unlawful dismissal, the dismissive reactions of the other workers, the “agitation” of the syndicals, the rigidity of the patron. The fate of the patron was predictable, because deducible.

Nevertheless, the predictability is very limited. Reason: among the axiomata there are “axiomata-with-preservation”! Thus: the patron can return to his rigid position at any time. So: a vote on whether to strike or not can end this way or that way.

Note.-- EO 164 (The lemmatic-analytic method) taught us to work with ‘data’ that are ‘obscure’ or ‘x’ (unknowns): the possible reversal of pattern, the possible mood so or so of the staff are such ‘xes’ or unknowns.

With which, however, we can work as if we already knew them. With the risk of being mistaken when we ‘deduce’, or predict from what we know -- that is precisely what makes the difference with explaining or making understandable after the fact: once the dispute is settled and someone wants to not only describe “the history” of the strike in a purely positive way but also thoroughly explain it -- make it understandable in a logical-straightforward way -- then the unknowns are known and the deduction after the fact can proceed perfectly well.

This is what historians continually attempt to do. They show that, given the data, the facts “had to come from it”! That is what we call “hindsight prediction”.

Note - The concept of ‘fate analysis’ originates from Leopold Szondi (1893/1986), Hungarian psychoanalyst. He came up with the concept as a result of a reading from the works of Dostoevski (Russian novelist) and a very individual war experience in 1916 (in Volhynia he was shot in the back but the book Traumdeutung (Freud) he carried with him saved his life).

Main work: Schicksalsanalyse, Basel, 1944,-- Main thesis: the fate of a single person is determined, to a great extent, by the genealogical figures (ancestors)--what he calls “family unconscious”--which impart a mysterious purpose in the soul depths. Profession, marriage, friendship are determined by them,--at least partly determined.-- So that Szondi looks for the axiomata mainly in the pedigree of a person and deduces from there.

Note.-- Difference between axiomatic-deductive method concerning abstract, universal or private or singular signs (‘symbols’, EO 156 (The graphic preposition)), on the one hand, and, on the other hand the same axiomatic-deductive method concerning fates and decisions is rather striking.

Dealing with signs - 'symbols' - is, if need be, a purely axiomatic-deductive business; dealing with situations has a very clear axiomatic-deductive slant, possibly as far as the structure of those situations and the reactions to them is concerned (even 'irrational' reactions have their own 'logic', understand: applied logic), but they are not so arbitrarily 'marketable' ('manipulable') as signs.

Consequence: characters can be traded in a purely formalized way (EO 161, 5 196). Life situations - fates - cannot. Pure calculating thinking has its limits: in mathematics e.g. - even when the baker's wife calculates behind the counter how much your bread costs - this works; in singular-concrete life, however, this "calculating thinking" forms the basic structure but nothing more.

Appl. model: Thoukudides of Athens (-465/-401). (211/212).

We said above that historians -- preferably after the fact -- "articulate the logic," understand: the applied logic of the facts, as far as handed down and known, and thus "make them intelligible, because deductible." Thus the greatest positive-scientific historian of ancient Hellas, Thoukudides,--in his Peloponnesian War.

Bibl. sample.: J.P. Vernant, *Mythe et pensée chez les grecs*, (Myth and thought among the Greeks), II, Paris, 1971, 55.

The author claims: as their technical thinking, so their historical thinking. Namely : both are indebted to logic and dialectics.

He refers to M.I. Meyerson who says: "The sequence of facts - 'kinesis', lat.: motus, process (movement, happening) - in Thoukudides is logical (...). The time (understand: of the facts of history) of Thoukudides is not merely chronological: it is practically a logical time".

Meyerson in turn refers to Jacqueline de Romilly who claims that "with Thoukudides the story of e.g. a battle is in fact a 'theory'; understand: an axiomatic-deductive account." In other words: the victory achieved, e.g., is a confirmed argument.

To which Meyerson adds, "Thoukudides' world is a world reconstructed ('re-pense') in thought; his historiography is a dialectic turned into an act." (*Meyerson, Le temps, la mémoire, l'histoire*, in: *Journal de psychologie* (1956), 340).

In other words, Thoukudides narrates in such a way that the end of a historically narrated event is "something that had to come of it."

Appl. model : G.Fr.W. Hegel (1770/1831). (212/219).

Situate first.

a.-- Modern, “enlightened” rationalism.

a EO 13 (Three types).-- Characteristics: a. individualism; b. rationality (reason is central along with the radical preference for general understanding); c. “mathesis universalis” (EO 157: Combinatorial thinking); d. unmistakable tendency toward materialism and secularism.

b.- The romance. (212/214).

Romanticism especially in Germany -- reacts against rationalism while reestablishing it.-- Thinkers clearly romantic in their thinking: Friedrich von Schlegel (1772/1829; brother of August Wilhelm),-- known for his *Vorlesungen über die Philosophie des Lebens*, (Lectures on the philosophy of life), founder, with his brother, of *Atheneum* (1798/1880; journal),-- of the romantic circle of Iena (Novalis, Schelling, Tieck, Wackenroden) -- influential on the historical thinking of Hegel (“Everything becomes”); Fr.E. Daniel Schleiermacher (1768/1834; the hermeneuticist);-- further: Fr.W. Schelling (1775/1854) and even to a great extent G.Fr.W. Hegel (1770/1831).

Opposite the individualism of rationalism, romanticism poses a sense of community as “people”; opposite exaggerated rationality (comprehensible thinking), it poses life - reason (but reinterpreted), mind (feeling) and fantasy -; opposite the materialistic tendency, it poses the higher and the ideal; opposite the aversion to the Middle Ages, it poses a revaluation of Middle Ages reality and a sense of tradition and historical past.

Behold some of the main features! So one should not confuse this with a false image of romanticism (“voze romantisme”)! The main thrust is and remains a vitalism or philosophy of life which takes biological life as its model (which is then called ‘organicism’). This axiom par excellence of (organic) life dominates all domains of culture with which Romanticism is concerned (language, politics, economics, etc.).

“The idea of a ‘mathesis universalis’, a ‘scientia generalis’, fiercely opposed by I. Kant (1724/1804; top figure and critic of rationalism), has been taken up again by J.G. Fichte (1762/1814), Fr.W. Schelling (1775/1854) and G.Fr.W. Hegel (1770/1831).” (E.W. Beth, *The Philosophy of Mathematics*, Antw./ Nijmegen, 1944, 141).

In other words: a comprehensive “science” about all that is real but stochiastic (understood as stoicheiosis (EO 46 (Combinatorics); 52 (Stoicheiosis)), i.e. one tries to dissect and reassemble the main structures of reality (harmony, order(s) doctrine).

Note.-- The three - Fichte Schelling, Hegel. - are also called “the German or absolute idealists.” The term “German idealism” indicates a way of thinking which antimaterialistically places the “idea” or also “the world of ideas” at the center,-- somewhat in a Platonic sense. The essence of all that is reality or “being(s)” is idea. Thus the German-idealist ontology.

“The rejection of mathematics as a paradigm, however, led Fichte, Schelling, and Hegel to apply a style of argument that, to a reader familiar with exact proof methods (EO 101 (Operationalism); 169 (Logic)), can never be satisfactory.” (E.W. Beth, o.c., 141).

We said:

- a. Romanticism - especially German - rejects (the exaggerations of) rationalism;
- b. Romanticism-especially German Romanticism-restores rationality.

The two together pass honestly and realistically portray real romance - not voiced romanticism.

I. Kant erected a wall of separation between philosophy and mathematics (mathematical logic then), although Leibniz (1646/1716; *De arte combinatoria* (1666: prelude to logics)) - EO 157 - among others under the profound influence of scholasticism (800/1450) had tried to remove such a wall of separation (he remained too misunderstood).

Kant immediately rejected the axiomatic-deductive approach to philosophizing advocated by Leibniz.

As Beth, o.c., 169 o.m., notes, Kant, through his rejection of the mathematical method on philosophizing, greatly influenced German idealism.

Whether that Kantian antimathematical influence had “such fateful consequences” (Beth, o.c. *ibid.*) on German idealism, as Beth, among others, claims, is another question.

To put life, in the thorough sense as a basic axiom - instead of mathematical thinking - first has, besides disadvantages, also great advantages: should not life then - for precisely - scientific reasons - be central to philosophizing? The strong one-sidedness of enlightened rationalism provoked, in the first place, the “antimathematical tendency”! Yet let us now look at Hegel.

In summary, it can be said that he introduced a new stoicheosis,-- different from the rationalist one.

Note --- For Bible believers, life is a self-evident principal value. We touched on this briefly in EO 199 (Life intrinsically inviolable).

The classical philosophical basis for this was: all reality, as non-nothing, is “good” (“value”),--at least in principle or merely axiomatic (as we showed).

Well, life -- organic (plant, animal, human) or psychic or purely spiritual -- certainly as higher being or reality than mere inorganic matter -- is most certainly non-nothing, reality,-- thus fundamentally inviolable, sacred. As value-in-itself.

This explains why or why everything that lives does everything to survive and live better! Were life, in itself, an unvalue, all living things would do everything to get rid of it!

The Decalogue or “Ten Commandments” clarify this: the fifth commandment commands respect for life - biological or higher - in principle; the sixth and ninth commandments command respect for all that is gendered (and thus newly connected with the origin of life) in principle; the fourth commandment commands respect for community life (the cradle of life) in principle; the seventh and tenth commandments command respect for all that is economically valuable (and thus the infrastructure of life - especially biological life) in principle: the eighth commandment compels respect for truth, the basis of life; - while the first three commandments, in respecting the divine source of all that is - especially of all that is life - , incite one to respect God - Yahweh, H. Trinity - as “the living God” (Deuteronomy 5:26) who gives life, yes, eternal life (1 John 5:20).

Romanticism, averse to arid rationalism has reminded us that life is central, even if it doesn't please calculating thinkers!

The Hegelian deduction. (214/219)

Bibl. sample.: H.A. Ett, ed., E.A. van den Bergh van Eysengha, *Hegel*, Kruseman, s.d., 67vv..

A certain Mr. Krug had accused Hegel. Krug did understand that axiomatic-deductive thinking was central. But he had understood this to be purely rationalistic: Hegel - he said - deduces from ‘a-priorist’ (EO 13), i.e. abstract-general ‘principles’ or ‘principles’ everything, the totality of all that is, - rationally!

Krug challenged Hegel: let Hegel ‘deduce’ e.g. the existence of every dog and every cat or the existence of his penholder in that a-priori way!

(1).-- *The rightly understood Hegel. -- Dialectics.*

Hegel is known for his - rabidly dialectical thinking.

a. *Platonism.*

As we saw several times, Platon was a dialectician. This involves two things:

1. The primacy given to all which is 'totality': 'all' (collection,-- metaphorical connection) and 'whole' (system,-- metonymical connection) are the recurring main concepts of his 'stoicheiosis' or order (order) doctrine.

2. The attention paid to change ("kinesis"), history (all that was, is, will be; EO 32). This second point may cause wonder. But look:

a. Platon, in his sketch of the *Politeia* or (city) state, outlines the essence of society at that time by means of the process of the state's becoming! What we, with O. Willmann, call the genetic method ("methodos gennetikè").

b, Platon, EO 80; 209), in his ethical appreciation of justice (the return of a borrowed weapon), reasons historically: by becoming insane meanwhile, the possessor of the weapon loses his right to possess it; i.e.: the "eternal" right to possession changes with changing circumstances! Platon clearly situates eternal principles in time and the passage of time.

c. Not surprisingly, Platon was the disciple of Kratulos, a follower of Herakleitos of Ephesos (-535/-465), the philosopher in antiquity who emphasized change.

As an aside, 'process' (Greek: kinèsis, lat.: motus) means "(ordered) change". A.N. Whitehead (1861/1947), *Process and Reality (An Essay in Cosmology)*, New York/ Cambridge, 1919, is actually an ontology that strongly emphasizes 'process' (hence: 'process thinking'),--this in a critique of Descartes and Locke, two rationalists.

b. *Hegelianism.*

With Romanticism, Hegel also places totality and time (history) at the center. And is he consciously 'dialectician'. But not in a platonic sense but in a 'new', modern sense. Hence one catalogues Hegel among the "new dialectics".

(2).-- *The rightly understood Hegel.-- Historical dialectics.*

Hegel reasoned, yes, but 'historically; i.e. reckoning with "all that was, is, will be"

(2).a.-- *Inductive thinking.*

As we saw - EO 14 (Schelling's positive thinking) - Schelling, the Romantic, knew "positive Philosophie".

So did Hegel: in 1802, Hegel replied to Krug's objection. With this reply, "existence is not proved - it was about dogs, cats, penholders - because it is a given".

This implies that Hegel's totality, however rationally thought (and Hegel was very rational), is inductively colored. The actual existence of e.g. dogs, cats, -- penholders is not deducible from abstract-general concepts. Not even from "the concept." All that was, is, will be comes, in Hegel's conception of things, to consciousness in "the mind" (of which the singular-concrete mind of e.g. 'I' and thou are but splits) which of being or the totality of reality forms "the concept".

In other words, through "the understanding" (in the transcendental sense) we become aware, with the universe spirit, of all that was, is, will be.

Well, even that concept par excellence - the concept - is not a sufficient presupposition of the deduction of cats, dogs, penholders! After all, it is empty without inductive data!

In passing: also Aristotle, for whom Hegel had great respect, thinks in analogous terms. "Being" ('on') is not a (categorical) trait ('semeion') of something (categorical) Also: when one says 'on', being, reality, of something (categorical), this is (for the time being) an (categorially speaking) 'empty' term ('psilon'), because he means nothing (categorical).

Only in connection with something else (categorical) does 'on', being, reality, acquire (categorical) meaning. Without such a connection nothing (categorical) is thought". (Peri herm, 3, in fine).-- Cfr EO 10 (Transcendental / categorical).

Conclusion.-- Krug erred! Hegel is rational, even to a high degree "rationalist! But at the same time explicitly attuned to positive existence.

(2).B.-- Totality thinking (dialectics).

Not only does Hegel say: actual existence is given inductively! Krug correctly points out: that same factual existence is

a. impossible (impossible; EO 36) and even

b. inconceivable (falling outside "the (all-encompassing) concept") without the totality of all that was, is, will be.

To understand or comprehend something in the Hegelian sense is to situate it in the totality (in "the understanding"). Thus dogs, cats, penholders are merely moments, (movable elements) within the totality of reality.

That is the Hegelian form of stoicheiosis, order(s) doctrine: all that is factually given is somewhere either the totality of all that was, is, will be or a part of it. That, is hegelian dialectic.

Hegel, in his argument against Krug: “To point out from the understanding of the living (EO 212: Philosophy of Life) whole or totality the meaning and place of e.g. the dogs, the cats,-- the penholders and concepts is something quite different from proving their existence”, especially something quite different from proving existence on the basis of abstract principles alone! -- here we sense the abyss between arid rationalism and the philosophy of life of romanticism.

‘Deducing’ in the strictly Hegelian sense thus means “in the totality of reality, becoming conscious in its understanding, making clear(er), making intelligible, ‘explaining’ the place and meaning of something (a given in virtue of induction).

In other words: to put the totality of all that was, is, will be (and the understanding of it in our mind) first as an axiom, together with the putting forward of some fact (= second axiom), is to put the axiomata first from which “place and meaning” are deduced.

Note.-- Hegel’s adage: “Alles was wirklich ist, ist vernünftig. Und alles was vernünftig ist, ist wirklich” (Grundlinien der Philosophie Rechts).

Translated, “All that is real is ‘reasonable’, (‘rational’). And all that is reasonable is real”.

Friedrich Engels, *Ludwig Feuerbach und der Ausgang der klassischen deutschen Philosophie*, Stuttgart, 1888-2, in initio, teaches us to understand that Hegelian maxim well.

In Hegel’s language, not everything that actually exists is immediately “real,” for “real” in one sense means “what fits as a solution what is given.

Or still: what can be deduced from the data as the true solution, appropriate to the reality of the data, of the problem present in the data.-- In this well-defined sense, all that is rationally justified is also “real. For it follows with necessity from the data themselves. Immediately ‘real’ is also, in Hegel’s language, ‘necessary’.

English provides examples.

One or another governmental measure.-- e.g., a tax measure--is, once enacted, only “real,” insofar as it fits into the totality of the state,--especially economically and socially.

The Prussian state of the time was only “according to ‘reason,’” -- in the Hegelian sense -- “insofar as it is ‘necessarily,’ rationally justifiable, -- insofar as it also solves the problems present in the data realistically.

If it turns out that he is “bad” yet in spite of that badness continues to exist, then the badness of the government finds its “justification” (rational justification) e.g. and even especially in the “badness” of the subjects who are co-responsible for the system which is expressed in it - revelation, alètheia, apokalupsis - the then Prussian government followed “necessarily”, with necessity from the totality of the data of that time.

Note.-- In the Bible we encounter something analogous Yahweh’s pre-Noahic covenant with humanity before Noah (Noah) became “unreal” at some point (no longer solved the problems): Yahweh replaces it with the covenant with Noah (imagined in the rainbow).

In the days of Abraham, it appeared that the Noahic covenant was becoming unreal: Yahweh replaced it with the covenant with Abraham and his descendants.

In the days of Jesus, the “old” covenant became unreal and no longer (fully) solved the pending problems : Jesus replaces it with the “new covenant” (in the Easter event).

A revolutionary theory.

The Marxist Engels has interpreted Hegel well: Hegel invariably speaks with enthusiasm about the French Revolution (1789/1799)! For - according to him - the French monarchy “by God’s grace” (= sacredly founded monarchy), which was once “real” (problem-solving), had become unreal, “deprived of all necessity.

So “unreasonable” (“irrational”) and unjustifiable that it had to be “destroyed” by the French Revolution. In that case, the monarchy was “the unreal” and the revolution “the real.”

From this, the Marxist Engels derives his revolutionary interpretation of Hegelianism: “Thus in the course of development -- note: all that was, is, will be -- all the former becomes unreal, loses its necessity, its right to exist, its reasonableness, -- peacefully when the former is wise enough to make way (for what is reasonable), -- violently when it resists that necessity.” --- Thus Friedrich Engels.

Engels continues: “Just as the bourgeoisie, through big industry, competition, and the world market, calls into question all firmly established, traditionally respected institutions in the practical sphere, so the Hegelian dialectical philosophy calls into question all concepts claiming definitive, absolute truth and the absolute human situations corresponding to that truth.

For her, nothing exists that is definitive, absolute, holy: of everything and to everything she demonstrates impermanence and, according to her, nothing exists except the uninterrupted process of becoming-and-decaying, of the endless evolution from the lower to the higher. Thus again literal English.

Marx and Engels turn the Hegelian spiritualist-idealist dialectic on its head: matter made clear by means of the economy and the social conditions connected with that economy contains the axiomata of “all that Hegel calls spirit and mental, immaterial, idea and ideal”. This then is the materialist dialectic: it seeks to uncover the axiomata in Hegelian philosophy, namely “the bourgeoisie”, the ruling class with its own ‘ideology’ (system of concepts). From these axiomata Marxism deduces the evolution of bourgeois society.

Note.-- The dialectical idealism of Fichte, Schelling, Hegel (especially the latter) -- from a religious point of view -- is a pantheistic idealism (EO 16). The ‘spirit’ which thinks and even is the concept of totality coincides both with god and with the spirit of all thinking beings.

Something radically un-Biblical, because in the Bible, God, Yahweh/Hebrew Trinity, although omnipresent is nevertheless radically transcendent and transcending all finitude (which S.Kierkegaard, among others, underlined), with “an infinite qualitative difference” between creator and creature.

Conclusion.-- Behold what is exposed - truth, alètheia - when one deepens the science of fate: our fate, individual and collective, human and cosmic, is one long series - algorithm - of fates and reactions, in which an applied logic is at work. Of this we saw a few samples.

Sample 26.-- Holistic ontology: crisis of 'ontology: (220/225)

The basic scheme of our ontology - it wants to be as classical and 'traditional' as possible without 'restitution' (the will to remain dilapidated) - boils down to the duality "given/requested".

Those who are concerned with "reality" or "being(s)" are repeatedly confronted with "all that , (already) given (and thus known)" and with "all that (not yet) given but sought (sought)". The latter is also called "the issue" or "the problem".

Expressed in aletheiological terms: the duality "all that is (already) exposed revealed, 'true'" and "all that is (not yet) exposed, 'true'".

Now read EO 62 (Truth Ontology).-- In phenomenological terms: the dichotomy "phenomenon (all that (already) shows itself for (already) immediately given)" "transphenomenal data that (not yet) shows itself directly."

Now read EO 120; also EO 126 (Phenomenal/ transphenomenal).

The Austrian school (EO 154: Bolzano/ Brentano), with its mid-century concept of intentionality, did fundamentally nothing more than renew the antique theory of truth ("Is true all that is reality revealed or exposed") from an "intentional" psychology.

In summary, the ancient couple or systechy of ancient mathematicians turns out to be the aggregate of every ontological behavior.

The problem in life, and among others in the rational-theoretical life, is the fact that notwithstanding we have a view on the totality or "the holon" the whole (collection and/or system) of reality (the basis of all ontology), we only have induction or samples from that totality.

The basic industry is the duality "given/ wanted"! The given is invariably a sample seen against the background of the whole which includes both given and demanded or wanted -- which was, among other things, the reason why a Husserl wanted to give the sciences a solid phenomenological basis : if you want to think properly, begin by examining what you already know, i.e., start from the phenomena which show themselves directly, without reasoning!

A provisional way out of this is called 'the lemmatic-analytic method! EO 164 taught us that this one consists in naming the requested 'x' and working with such an 'x' or unknown (transphenomenal) nevertheless rationally.

Thus one pretends that the unknown (transphenomenal) was already known (phenomenon)! That method, which the ancients claim Platon formulated first, turns out to be extremely fruitful: think of modern letter calculus e.g.!

Systems construction and ontology. (221/222)

The ontology as it is conceived in this introductory course is radically holistic, i.e. totality thinking.-- And yet: induction governs it radically,-- in socratic-platonic tradition. Read EO 97 (Socratic Dialectics) and especially EO 138 (The Axiomatic Induction),-- without skipping Hegel's inductivism (EO 215)!

Final conclusion: holistics and induction!

The systematists.

No one has ever been able to discover a coherent system in Platon's texts, his dialogues only give samples (which in the aporetic dialogues or dialogues that end in no solution at all, end in question marks, i.e. problems without solutions).

Otherwise already Aristotle, his most brilliant pupil: he is in antiquity the great systematicus, i.e. he fills the empty spaces of ontology with categorical data which together constitute a world- and life-view,--a filled up stoicheiosis.

St. Thomas Aquinas (1224/1274; top figure of mid-century scholasticism and ontology) practiced a (padded) system, as did many ecclesiastical thinkers of his day.

Truly systematic in the modern sense was Francis Suarez (1548/1617; top figure of modern or Spanish scholastics): *Metaphysicarum disputationum tomi ii*, Salamanca, 1597. Suarez possessed very broad information. He was a balanced thinker. His influence was very great, although the work of a Jesuit (since 1564) his work as a manual became common even in Protestant universities during the XVII century.

Hegel was truly systematic, though very inductive (EO 216: Totality thinking)! The inclination towards an ontologically coloured world- and life view, 'filled up' with categorical data, was therefore extremely strong among the systematists.

The inevitable crisis of "padded" ontologies.

The categorical data accumulate as cultural history progresses! Consequence : the ontological tracts filled with such changing data immediately become outdated and have to be "refilled" again and again.

Today the information, through all kinds of information channels (think of the media), especially through the crowd of positive sciences (there are hundreds of them), is massive. And yet: the craving for a filled-up worldview - 'Weltbild' to speak with Heidegger - continues to live on.

J.K. Feibleman, A System of Philosophy”, The Hague, 1963+.

It is a kind of one-man encyclopedia! “Logic, Ontology, Metaphysics (some distinguish ontology and metaphysics),-- Epistemology, Ethics, Aesthetics, Psychology, -- Politics, Sociology, Anthropology, Philosophy of Life, Philosophy of Nature, Philosophy of Language, -- Philosophy of Science, Cosmology; Philosophy of Law, Philosophy of Education, Philosophy of Religion”.

In fact, the eighteen sections amount to a. a general or transcendental ontology and b. a number of special or categorical ontologies.

The shaded judgment of H.-H. Holz. (222/223)

Bibl. sample.:

H.-H. Holz, *The Topicality of Metaphysics (Contributions to the History and Systematics of Philosophy)*, Kampen, Kok, 1991.-- “Shaded” means “provided with reservations or modality.

a. Since a few centuries (think of the XVIII-th century materialists e.g.) a number of intellectuals - a part of the ‘intelligentsia or intellectual-artistic vanguard - have gone big on criticizing “ontology”, often disdainfully called “metaphysics”, yes, or building or “deconstructing” (J. Derrida). Holz nods to this fact.

To begin with, he outlines the history of ontology “from Platon to Hegel”-always that series. Then he outlines the criticisms released on that ontology (Schopenhauer, Nietzsche, Dilthey, Bloch).

b. Holz then defines what “metaphysics” actually is. Dwells on the problem, i.e. the set of questions that metaphysics seeks to answer.

Things like “the absolute or utter being,” “the totality of all that is and so on come up.

Holz observes: the problems of ontology can be criticized and actualized but not swept off the table! Even in our climate of thought, which is quietly to be called ‘postmodern’ (“the postontological age”), the questions of ontology remain!

Main causes of the “crisis of ontology”.

We have already indicated one of them: the changes of categorical “fillings” of the in itself empty concept of being in the course of cultural history.

Holz formulates as follows:

- a. the problem state of the propositional or positive sciences that provide us with more and more data concerning “being” or the totality of reality;
- b. the changing view of that same ‘being’ or totality because we live again and again in a cultural context,-- in which we can cite the multiculture or multiplicity of cultures which either diachronically (antiquity, middle ages, modern times, the present postmodern era) or synchronically (Catholics, Protestants, Muslims,-- atheists) sometimes differ thoroughly from each other.

There is even a pedagogical aspect to this: the culture of today’s youth, thanks to the media among other things, can sometimes differ profoundly from the culture of parents and educators!

Every culture can be defined as a “categorical filling of the empty transcendental concept of being.”

What exactly is the crisis about? It in no way concerns the transcendental or all-encompassing concepts - being, truth, unity, goodness (value) - ; it concerns the categorical fillings or interpretations of these empty but transcendental concepts!

In terms of logic or theory of thought (meant traditional).

The essential core of traditional logic, as we have processed it in its main features, namely understanding and judgement as propositions of reasoning (if-then relation), is unchanging. But the cultural - let us say categorical - preconceptions to which this logic is applied do change! For the general logic, traditionally understood, is transcendental and thus omnipresent theory of thought that never goes into ‘crisis’.

On the contrary: if the actually existing anthologies are criticized (justifiably or unjustifiably), it is always in the name of transcendental logic!

From architectural to network metaphor. (223/224)

Bibl. sample.: G. Lernout, *Postmodernism*, in: *Streven* 1986 (Oct.), 33/44.
Lernout’s dual proposition boils down to what follows.

A.-- *The architectural (architectural) metaphor.*

Just as a pedestal, a “firm ground”, foundations or “foundations” underpin a building, so too a firm pedestal, the “foundations” or foundations underpin our thinking (sciences, philosophy, rhetoric). Behold the metaphor or model/original relationship.

To begin with, a certain “classical” tradition is thoroughly logical, centering on the question of presuppositions -- the foundations or pedestal -- either deductively or reductively (especially inductively).

The bases are distinguishable into:

a. strictly provable and eternal and b. probable and temporal.

Note.-- Postmodernists like to call that type of ordering fall insights “foundationalism” or even “fundamentalism” while usually adding to it a pejorative connotation of “dogmatic and self-serving thinking. Thinking that once and for all offers “the absolute truth” for sale.

B.-- *The network metaphor.*

Just as a weaver weaves a bird’s net that floats in the air, so too those who think: we constantly “weave” world- and life-views of all kinds,--we constantly “weave,” in the course of cultural history, philosophical systems of thought that come and go, scientific theories that emerge and disappear, -- detached from any reality outside us.

In other words: the thinking proceeds anything but logically in the classical sense (pedestal/upper). More than that: it lacks all solid foundations.

So what is it? ‘Working logically’ amounts, in fact, to “combining (EO 157) thought-forms “in-the-air-floating”, like a bird-net, into a network”. To proceed logically amounts, in fact, to continually absorbing changes, since ‘reality’ in and outside us (the whole moving cosmos) is in constant need of change,--up and down, for example.-- That is called ‘postmodernism’.

In a multicultural such as ours, “the network weave” most certainly corresponds to a first impression: each world view combines a number of presuppositions into its “little world” which, in a closed environment, threatens to come across as the only valid (dogmatic) one. The postmodern thinker then knows himself to be like Konstantin Guys (1805/1892) and Charles Baudelaire (1821/1867; *Les fleurs du mal* (The flowers of evil), (1857) who, in the midst of floating conceptions, knew themselves to be uninvolved strollers.

Philosophical 'endism'.

The term "endism" (cf. the English "end" end) has been in: ever since Francis Fukuyama, in *National Interests*, published his "*The End of History?*" in 1989, the term has been vulgarized! But here we are talking about philosophical endism.

Bibl. sample.: D.De Schutter, *Derrida on the end of philosophy*, in: *Streven* 6 ((1993): 2 (Feb.): 146/156.

Hegel announced "the end of philosophy." (Fukuyama nods to this). Heidegger took this claim very seriously. "What comes after Hegel has, according to Heidegger, tried in vain to evade Hegel. He thinks very explicitly of this:

1. Schelling's philosophy of existence,
2. to Kierkegaard's description of the religious man,
3. to Marx's dialectical materialism,
4. to the philosophy of life of Dilthey and
5. to the existentialist humanism of Jaspers and Sartre.

For Heidegger, each of these are failed attempts to escape Hegel. These attempts failed because they did not get beyond a reversal of the philosophical system.(...).

The history of philosophy has ended because the program conceived by Parmenides of Elea has been finished (...)" (A.c., 149).

Derrida (Jacques Derrida (1930/...)) follows in the footsteps of Heidegger. Yet he deviates from Heidegger's critique of traditional philosophy on several points (Heidegger wants "eine Destruktion" of it),--especially where Heidegger thinks too Hegelian.

Derrida, deconstructionist or deconstructionist, emphasizes what is new after Hegel: 1. Nietzsche's lust for parody, 2. Levinas's ethics (the face of fellow man), 3. the dismantling of all that is called 'word' in Joyce's and Mallarme's work, 4. the 'parable' of Kafka and Blanchot, 5. de Saussure's semiology, 6. Freud's description of 'mourning', 7. Mauss' concept of 'gift', 8. Gödel' s concept of 'undecidability'.

Of these, Derrida claims that they upset the traditional philosophical, ontological 'logic' such that philosophy must also accept things outside its domain which it can give "no place or meaning" (EO 217) in the whole (the understanding of the totality of all that was, is, will be)!-- Something with which Derrida risks himself very far because being, the idea 'reality', is an empty (under categorical point of view) "place for meanings" in which literally everything fits.

Sample 27.-- Holistic ontology: the over-complicated being. (226/339)

Summarize for the umpteenth time.-- Phenomenologically, i.e. phenomenologically, the given is the first and the starting point. The sought or requested, which is transphenomenal and not yet revealed, belongs somewhere to the given. As the dark, opaque side of it. But then in such a way that this dark, opaque slant shines through. So that the given and the requested are actually intertwined.

Ontology is more than mere phenomenology:

a. for the phenomenologist, the given coincides with the asked, because he wants the accurate description of the given. Nothing more.

b. Ontology, however, is holistic,--states focused on the totality of being(s), --not just that which shows itself immediately.-- Behold the pedestal.

The eleatism of Zenon of Elea (226/227).

Bibl.: st.:

-- Cl. Ramnoux, *Parménide et ses successeurs immédiats*, (Parmenides and his immediate successors,), Ed. du Rocher, 1979, 151/166 (Zenon);

-- E.W. Beth, *The Philosophy of Mathematics*, Antw./Nijmegen, 1944, 18vv. (Zenon).

Parmenides (-540/...) holds the axiom: "All that our thinking holds, is". Outside our thinking there is "nothingness", which for him was both becoming and multiplicity, while "being" - in his interpretation - was disordered and one.

His pupil Zenon of Elea tried to "make true" Parmenides' axiom. With arguments against both the becoming and the multiplicity. Behold the background at the time, which was very religious: all that is divine is disordered ('eternal') and one.

Zenon's method.

Logic was the basis (in its then primitive form). Applied logic or method shows the logic concerning real being at work.

A.-- Zenon summarizes the opponent's thesis (axiomata) in as simple a sentence as possible introduced by "if" (the essential core of traditional ontological logic that sees connections between reality and reality that appear to be derivable from it). Thus e.g.: "If there is becoming, resp. multiplicity, ...".

From this, Zenon draws contradictory conclusions introduced by "then. Thus: "If there is becoming, resp. multiplicity, this leads to contradiction". -- From which Zenon concludes: the sentence introduced by 'if', since it leads to absurd conclusions, expresses a premise (axiom) which is unreal,-- yes, unreal in the form of 'impossible'.

Logic, already at that time, was: from preconceived realities, deduce other realities (if preconceived reality, then deducible reality).

Zenon himself cherished an axiom of his own: the preconceived reality, if it is to be truly real and not sham, must not lead to contradictions.-In everyday language, “Don’t contradict yourself!”

B.-- Aristotle, addressing the zenonic method, observes.

Zenon is aware of the limits of ontological or reality thinking, which Parmenides presupposed as his main axiom. His own thinking does not get very far. Nor does the thinking of his opponents -- In other words: under A, above, we saw the structure of the method; now, under B, we see the result of that same method.

Aristotle summarizes Zenon’s arguments: thou, nor I, prove decisively, thy thesis (axiom).

In other words, neither your premises nor mine are such that their conclusions lead to irrefutable reality. they are at least provisional and/or partially unreal.

Still another: there are arguments for but there are arguments against! Undecidability. Yes, maybe even undecidability.

Conclusion.-All that our thinking grasps, is! But our thinking comprehends too little to arrive at decisive proofs in essentials. the first fundamental crisis of thinking is there with Zenon. The premises of our thinking - the inductive premises in the first place - are inadequate or even unreal.

Platonism. (227/229)

Bibl. sample.: W. Klever, **Dialectical thinking**, Bussum, 1981, 22vv..

Socrates, in his first period, had paid much attention to the ‘natural philosophy’ of the time he found it “something lofty” because it traces the ‘causes’ (presuppositions) of all that exists.

Later, he evolved into ethical-political questions.-- But Socrates could never fail to lead the conversation back to the premises of the propositions explicitly discussed. Which “if ..., then ...,” contains, of course.

Platon adopts this socratic backward analysis to the ‘hypothesis’ the presuppositions, in all his dialogues. In other words : the eleatism that approaches logically!

Appl. model.-- “Thou claimest that thy husband is a better citizen than mine.” --
“Very well! but then let us analyze what we mean by ‘a good citizen’“.

In other words: the presuppositions of the conversation are already in the definitions! Socrates forces his interlocutor to become aware that he is starting from preconceptions - often unconscious - when he opens his mouth and makes a claim. The definition therefore plays a major role in the socratic method in that it forces one to penetrate the presuppositions.

The reason-free necessity / reason.

Bibl. sample.: G.J. de Vries, *Plato's image of man*, in: Tijdschr.v.phil. 15 (1953): 3, 426/439.

Platon, like Parmenides, wants to imbue the data of experience as much as possible with ‘spirit’, ‘reason’. If only thanks to examining whether purposefulness can be found in the data. That was anaxagorean.

Thus in the cosmological dialogue Timaios.-- However, in rigid mathematical construction, the composition of the universe is constructed of ‘regular’ bodies. That is ‘reason’ or ‘spirit’. -- But no attempt is made by Platon to ‘deduce’ matter, for example: an inexplicable fact remains an inexplicable fact. That is reason-free necessity.

de Vries: Platon is talking about two “forces” (propositions) in the universe:

- a. de nous, spirit (red), i.e. insight gifted with purpose;
- b. the ananke, reason-free necessity, which is and remains opaque yet co-constitutes the cosmos.

Conclusion.--All that captures our thinking is (reality)! So said Parmenides. So would Platon.-- But our thinking faces ‘ananke’, opaque, over-complicated, ‘complex’ data which it must, without seeing through them, take in as a reasonless necessity.

Note.-- ‘Violence (‘bia’), fate (‘heimarmenè’), rigid order(s) (‘cabs’) are meaning-related words (according to E. des Places, S.J., *Lexique de la langue philosophique et religieuse de Platon*, Paris, 1989-3, 38/39).

At once we also understand why Platon wrote aporetic dialogues: ‘aporia’ is situation-without-way, data without solution; ‘aporein’ is hesitation because one does not see how to go about it. Thus des Places, o.c., 69. -- Our mind has limits, rock-hard limits.

In other words, “being(de)” is somewhat phenomenal, i.e. immediately accessible to our minds, either as given or as drawn ready by reasoning, but it is primarily transphenomenal, rock-hard transphenomenal, because for the most part it does not show itself, even through reasoning of all kinds.

Note.-- O. Willmann, *Abriss der Philosophie*, Wien, 1959-5, 366, quotes John Locke (1632/1704; founder of the Anglo-Saxon Enlightenment): the goldsmith knows better “what gold is” than the philosopher! To which Willmann: indeed, if “what is gold” means the piece of metal that is distinguishable and workable according to the goldsmith’s methods, then the nominalist Locke is right.

But, if “what gold is” means that which makes that there is such a thing as the piece of metal that is distinguishable and workable according to the approach of a goldsmith, then it is the philosopher who has the ontological insight. Specifically: the properties that gold exhibits have not come together by chance but form a system with its own being-nature.

Now it is the case that we usually approach that being through the day-to-day manipulation of gold, with the being itself remaining transphenomenal. Willmann: “In so far as the being (of gold e.g.) is an x, a ‘qualitas occulta’, i.e. a hidden, unrevealed property”. Notwithstanding this, both the goldsmith and the thinker deal with gold! As if, somewhere, they knew “what gold is” after all. This as if behavior has a name: the lemmatic-analytic method, which pretends that the requested (unknown) was given (known).

Conclusion.-- With Zenon and Platon, we conclude: the logical method is a valid method, but it is limited: its results show its limits.

The way out.-- As just now, in the case of (the essence of) gold, so also in all other way-out situations: the lemmatic-analytic method (EO 164 (73); 210; 220).

We learn to live with unknowns (wanted, demanded)! but in doing so we act as if we knew them.-- We put those unknowns first - as given - and deduce from them in order to live, act alive.

In antiquity, Platon went on to be the first to consciously introduce that method.-- After what we saw about the anankè and the aporia, with which Platon had to live, this is not surprising.

Sample 28.-- Holistic ontology: the over-engineered being (230/239)

'Overcomplicated'.

a. That our reasoning ability, through induction (facts. material) and hypothesis formation (reasoning), can handle even the very complicated, is proven daily by the 'triumphs' of the sciences. But - unfortunately for our 'reason' - there are over-complicated realities that we cannot handle rationally. Let us elaborate on that, as Zenon and Platon showed us the way.

How a dime can roll.

The popular saying is well known: it expresses the outcome of an event in its unpredictability, -- in its undeducibility. - Well, since +/- 1970 physicists and other professional scientists are discovering that the unpredictably rolling dime may be the model of the fundamental structure of the universe.

This would be the professional scientific confirmation of what Platon called "ananke," inescapable fate, opaque but rock-hard real necessity.

Traditional determinism.

'Determined' is 'predetermined'. I. Newton (1642/1727) -- emphatically Pierre Simon de Laplace (Laplace for short (1749/1827) defined 'determinism' as follows.

A.-- given.

A system that is known exactly with respect to a state in which it is situated. One understands this state as the initial conditions (= presuppositions) of a scientific study of said system.

B.-- Requested.

From the initial conditions or prepositions infallibly deduce and thus predict what the next states will be. This is possible, if the system in question is a deterministic system. Otherwise, no

Note.-- Modern rationalism, which conceived of the universe -- including the human body and even the human soul -- as a tool or machine, is naturally deterministic. This up to and including A. Einstein.

Destiny. (230/231)

None other than Karl Löwith, for example, stated in his philosophy of history : "The fate of a philosophical event - if, at least, it really is historical (and not limited to 'merely academic stuff') - becomes, against one's will, something other than what its originator originally imagined it to be". . -- Who among us, while living, does not regularly observe something like this: our words, our actions, once in our environment, alienate us!

Note.-- In the religion of all the archaic peoples,-- in, the religion of the antique-classical peoples (so the Greeks and the Romans),-- in the mid-century religion,-- in what is now called “New Age” (New Age), predicting - “prophesying” - the future occupied a large place.

Appl. model.-- The great humanist M.T. Cicero (-106/-43) devoted an entire book, *De divinatione*, to the phenomenon of “foretelling-of-future.” Cicero, in a dialogue with his brother Quintus, defending divination, criticizes, indeed mocks it! But he himself was once a member of the college of “bird diviners. Yet he by no means wants to see dowsing abolished.

The reason is obvious: our existence-in-the-world is future-oriented; well, that future “comes to us” (i.e.: we do not force it without question) as a largely unknown (= sought, demanded); so that future is, in mathematical- logical terms, a question, a continuing problem whose solution we want to know, if necessary through “irrational” methods - all of which are “lemmatic-analytic methods.

Chaology. (231/234)

Disorder. R. Lewin, *Complexity*, Amsterdam/ Antwerp, Contact, teaches us what follows.

Scientists of all kinds have noted that “simple” and “though complicated yet manageable” elements can - the modality: possibility - lead to the most opaque, “complex” (over-complicated) states. This is brought up in chaos or disorder theory, among others.

The comprehensive theory in this regard is called “complexity theory.

which studies the over-complicated in all kinds of domains. Thus it is becoming a main theory in almost all professional sciences! Expressed in platonic terms: professional scientists, paragons of logical rigor, heroes in the eyes of enlightened rationalism, learning to live with the unknowns of all kinds,--inclined to the lematic-analytical method.

Bibl. sample.:

-- David Ruelle, *Hasard et chaos*, (Chance and chaos,), Odile Jacob (the work (studies “the sensitive or unpredictably sensitive response to stimuli” where initial conditions are responded to in more than one sense resulting in unpredictability);

-- J. Gleick, *La theorie du chaos (Vers une nouvelle science,)* (Chaos theory (Towards a new science), Paris, 1989 ((a. o. o.c., 25/51 l ‘effet papillon.

Fifty years after Henri Poincaré (1908), the meteorologist Edward Lorenz conducts an experiment showing that weather over-complicated as it is, resembles a chaotic phenomenon; the wingbeat of a butterfly in Sydney Bay (Australia) causes a cyclone over Jamaica a week or more later; hence the metaphor “butterfly effect” which sees on a small cause as an omen a large reaction as a sequel);

Bibl. Sample

-- P.C. de Gennes et al, *L'ordre du chaos*,(The order of chaos), Paris, Bibl. pour les Sciences, 1977/1984;

-- Ervin Laszlo, *La grande bifurcation (Une fin de siècle cruciale)*, (The great bifurcation (A crucial end of the century)), Paris, 1990 (// *Design for Destiny (Managing the Coming Bifurcation)*, New York, 1989 (work extending the idea of chaos to cultural phenomena);

-- Ilya Prigogine / Isabelle Stengers, *Order from chaos (The new dialogue between man and nature)* Amsterdam, Bakker, 1987 (the work of the famous School of Brussels).

-- P. Darius, *How chaotic is chaos*, in: Our Alma Mater (Louvain) 1991: 1, 31/49 (“Gradually a little structure is coming into the chaos but numerous questions remain unanswered” (a.c., 31)).

Main draw of disordered systems.

Whether it is a group of animals or birds in biological nature or the weather or an embryo or phenomena in the cosmos, disorderly systems, despite the fact that they obey, to some extent, determinism and are therefore to some extent deducible and predictable, apparently also behave haphazardly. Like the dime that can roll so or so or so.

Consequence: such systems are transphenomenal in terms of their behavior-in the long run, -- escaping the (mathematical) grasp of the professional scientists.

For example, Lorenz’s water wheel, of which it proved impossible to predict when, for example, it would change direction. Such as the swirling cloud of smoke from a cigarette in terms of the precise form the cloud will assume. Such as the jet of water from a tap and the ‘capricious’ shapes-and-movements it will assume.

‘Disorder’ (‘Chaos’).

A dynamic system (EO 180) exhibits disorder when it is “destabilized” and thus “fluctuates. Traditionally, ‘chaos’ has mostly meant ‘confusion’, absence of order.-- The new meaning reestablishes the older one: ‘disorder’ signifies a new type of order such that a stimulus is over-responded to - confused.

So it is not an utter disorder! But a kind of order for which, at least for now, no exact mathematical ‘model’ is found. Hence the impression of over-complicated, ‘complex’ (in a new sense).

‘Two-pronged’.

‘Bi.furcatio’, fork-like structure -- The splitting of a data into at least two data stands out in dynamical systems that exhibit “a far-out-of-equilibrium state”, under ‘over-pressure’ and immediately disorderly behavior, -- with at most limited deducibility from initial conditions and ditto predictability.

Appl. model.

Consider the Russian empire in 1917. The system underwent

- a. an external overprint, because it lost the first world war,
- b. an internal overprint, as society splintered into a social struggle between conservative system and Leninism.

Consequence: ‘de.stabilization’ or ‘far-from-equilibrium’ state. Anything could still happen: hold their own (branch 1) or go under (branch 2)-which means the fork in the road. Overall impression: chaos.

The tsarist system, finally, collapsed - out of “unreality” (according to Marxist dialectic: EO 218) - which involves one branch of the fork in the road.

Note: in Marxist-dialectic language, one speaks of “unreality” (no longer solving the problems); in chaological language, one speaks of “far-out-of-equilibrium state.

‘Crisis’.

Bibl. sample.: Ch. Zwingmann, Hrsg., *Zur Psychologie der Lebenskrisen*, (On the psychology of life crises), Frankf.a.M., 1962.

Thirty-two specialists talk about the crises or “far out of balance states” that occur in human life.

‘Crisis’ (antique Greek) means ‘judgmental shift’. With the crossroads of either surviving or perishing.-- It is noted that during a crisis, the doctor, the neurologist, the psychiatrist, the therapist observes unpredictability - diagnosability: “Anything can happen!” In other words: what natural scientists and biologists are recently discovering has long been known in human affairs!

Archaic cultures are also perfectly familiar with the crisis: Arnold van Gennep, *Les rites de passage (Etude systématique des rites)*, (Rites of passage (Systematic study of rites), Paris, 1909-1, 1981-3, teaches us that decisive transitions, in which “everything is possible,” can be defused thanks to sacred methods.

Pregnancy, birth, engagement, marriage;-- illness, dying;-- travel, pilgrimages, etc. constitute, in primitive cultures “a crisis” in many cases.

Such a problem is solved, within the presuppositions or axiomata of archaic religions, thanks to rites, i.e., life-force laden acts (in which the word plays only a partial role). The ‘dunamis’ (gr.) or ‘virtus’ (lat.), life-force bestows something that tilts the “far-out-of-balance state” toward survival.

Note.-- Psychotherapeutic chess game theory (284/285)

Bibl. sample.: K. Soudijn, *Out of the knot (Psychotherapies)*, in: Nature and Technology (Natural Science and Engineering Journal) 62 (1994): 3, 192/203.

Everyone may know that psychotherapies - there are many - have been booming in the last few decades.

1. The axiomata or presuppositions are very often depth psychology (Freudian or otherwise), rogerian client-centered treatment, or some behavioral therapy.

2. Now a very peculiar connection “cause/effect” (EO 100: Baconian induction) occurs. As axiomata, there are sometimes very different, indeed sometimes contradictory theorems (EO 137: Theorems) covering the same phenomenon - e.g. depression - (domain). As results, there are to a large extent precisely the same solutions: “The effect (of the various proposed methods) need not be different because of it” says Soudijn.

Conclusion.-- The explicitly advocated axiomata cover, in fact, a hidden premise, for the result, for all the difference of method, is the same (to a great extent).

Note.-- Perhaps the operative (operational) induction applies here, in its up-educational variant (EO 101). Or even in its operationalist variant.-- Perhaps this points to the underground continuing, but by a narrow-minded modern-enlightened rationalism repressed or suppressed ‘dunamis’ or life-force. As stated above.

Perhaps it is the “ethos” or individual aura (“aura”) of the practitioner, as noted by ancient rhetors when a speaker persuades his audience.

As an aside, check out the title of Tobie Nathan, *L'influence qui guérit*, ‘The influence that heals), Paris, Odile Jacob, 1994 (from the ethnopsychiatric school, in France, directed by Georges Devereux)! Which ‘influence’ precisely solves, in fact, the psychic problem and is therefore ‘real’?

Soudijn continues.-- The success question.-- Not every helper succeeds. Not every patient(s) succeeds.

a. If the complaints are separate from the rest of the total personality, then in principle there is diagnosability and predictability of effectiveness: Psychotherapy resembles, in that hypothesis, a “single medical intervention.” Where the axiomata cover the domain perfectly.

b. If, however, the complaints are interwoven with the total personality (EO 88: Dialectically connecting),--with the whole “existing” (living as an actual human being in the world), then there is chess process. In this, not all axiomata are known and so the domain is vaguely defined.

Model.-- In the course or process of a game of chess, there is no unambiguous rule for predicting a move or counter-move as successful (‘effective’). Reason: the opponent/opponent keeps his set of (counter)moves inside (EO 155: Mutual intentionality).

Original.-- It is the same in psychotherapeutic treatment. Sometimes a practitioner knows very well what responses or reactions to expect (sample). Sometimes, however, he/she hardly knows or does not know at all (sample). Then he/she has to deal with the unknown (requested, wanted). Only way out: the platonic lemmatical-analytical method (= pretending to have already found what he/she is looking for and deducing what to do,-- more often than not haphazardly. Not knowing how the dime of his deed can roll).

An economic model of overinvolvement. (235/236).

Bibl. sample.: Chr. Roulet, Hervé Sérieyx, *le chantre de la pensée complex*, (the singer of complex thinking), in: Journal de Genève/ Gazette de Lausanne 10.03.1994.

Following a book by the former leader of the group Lesieur (oils), viz. *Du management panique à l'entreprise du XXIe siècle*, (From panic management to the 21st century company), Ed. Maxima. It deals with ‘chaos management’.

Introduction.-- Businesses, first and foremost the “patrons” or “managers,” have been confronted since 1989 primarily with a multiplication of traditional certainties (predictabilities) undermining facts.

Consequence: they have to deal with ‘complexity’ or over-complication. The thinking models of the past no longer fit the facts: the axioms no longer apply to the evolving reality.

What facts in particular have made the axioms of patrons “unreal” (no longer problem-solving)?

1. The revolution concerning all that is informatics, (we think e.g. of the Internet, created 1970+, the most extensive set of informatic networks, used by more than thirty million people in 1994);

2. the global ramification of economies (we think of the GATT - negotiations that culminated in the WOH (World Trade Organization), after forty-seven years of negotiations),-- ramification that manifests itself in the “internationals” and the “delocalizations”, among other things.

3. The collapse of the great ideologies (especially the socialist ones: meeting on a world scale in Stockholm in 1988, the socialist parties confessed that a purely socialist economy, because of bureaucracy above all, is at least in the economic field a failure); - in the wake of that, the dual liberal, indeed downright “capitalist” world economy which creates on the one hand a small number of privileged people (the wealthy) and on the other hand a growing, indeed gigantic number of unemployed (Reich’s theory of dual economy) with as a consequence a growing number of applicants for a diminishing number of workplaces (“jobs”).

As an example of global information, the American CNN (Cable News Network) literally transforms with its daily TV news. the entire planet into a village where everyone knows everything about everyone else,--at a minimum of time.

Hervé Sérieyx, meanwhile, lays the greatest emphasis on the constant changes in the world situation,--in the first place in the technical field: one innovation or invention after another emerges and forces enterprising people to make constant adjustments of all kinds. The result: ever-shorter-term prospects. The result: the constant hesitation of bosses to venture into the market with a product or service. These last two characteristics characterize a company as “below its level” (“unreal”, “outdated”).

As an aside, we are in full dialectical structure (EO 215vv: Hegelian dialectic), for the economy resembles “an ever-changing totality.” Which creates ongoing ‘crisis’ (“Anything can happen at any time”) and far-out-of-equilibrium states.

An outdated interpretation.

If one interprets the reality of our economy of today and of a near future, on the basis of axioms which have applied hitherto, this leads to panic concerning management (= economic policy),-- with as a result the present economic drama. -- of which the following signs bear witness.

(1) The massive discards that further accelerate the spiral of declining consumption (and thus economic recession or decline).

(2)a. The irresponsible “lopezomania” (Lopez, from Galicia, becomes VW-pattern) that, like a waterfall, propels the entire system of small and medium-sized enterprises (SMEs), of subcontractors and of suppliers to an end point without a view.

(2)b. The revival of obsolete forms of hierarchical “violence” which, without fail, is discarded -- In other words: the managers (heads of companies) who only work in the short term are destroying the forms of partnership so necessary between economic actors (people who act) who need each other, and are killing any inventiveness in the bud.

A new interpretation.

H. Sérieyx proposes a new type of economic policy in place of that obsolete conception of management.-- It will, he says, rise out of the natural selection now underway. Sérieyx calls this “the over-engineered thinking.”

From the top of the overlaid hierarchy (rank) that leads, to the workaholics who are in the first line of fire, economic thinking must undergo a transformation such that the complex or over-complicated type of thinking is exposed.

From complicated to over-complicated.

1. The Western corporations that exist today were designed at a time of economic growth. They can handle all that complicated order structure thanks to scientific methods.

2. These same companies, however, are not yet / no longer able to cope with the current, over-complicated structures.

Appl. model. A Boeing 747, once disassembled into all its elements, has +/- 35,000 parts.-- Traditional thinking of the complicated can handle this perfectly: one can put the plane back together again perfectly.

Appl. model.-- A bowl of spaghetti, however, is so “fluid” that breaking up its parts in such a way that they reassemble as they were ordered is impracticable: “Il y a dans les spaghetti’s une logique du chaos non predictable. (There is in the spaghetti’s an (applied) logic of disorder which is not predictable).

Thus literally Sérieyx, in the question interview.-- well, the situation of the whole planet ‘original’ resembles spaghetti (model), which is over-complicated or complex.

Transition Model.

IBM.-- December 1991 ends with a loss of \$2.7 billion.

1. John Ackers splits the board into nine and then thirteen departments: IBM loses another \$5 million the following year. Ackers was the man of the strictly managed hierarchical order.

2. In Ackers’ place, Nabisco was appointed,--a man who knew nothing of computer science but was at home in managing--with good results--a bunch of mutually disparate activities. The man of “living life” (“live and let live”)! He introduces more independence,-- more freedom for all who cooperate.

This IBM model leads Sérieyx to put a new type of corporate policy first. He is convinced that this will emerge - from the natural shuffling that is now underway. Such a management will be at home in (thinking of) the over-complicated (economic life). From the top of the traditional decision-makers - the ‘hierarchy’ - to all those who stand in the first lines of fire as job holders, thinking itself must undergo a transformation or transformation so that, thanks to over-complicated thinking, the ‘unreal’ enterprises become ‘real’ again (i.e. can solve the new problems).

Lematic-analytical basis.

Changing situations continually present managers with unknowns, “demanded,” “wanted. Our minds, however, are so transcendental or all-encompassing-whatever a Derrida might say of them (EO 225: “outside the domain”-that they turn unknowns into lemmata or as if acquaintances and work with them as if they were already “given,” “known.

The phenomenon is one; the transphenomenal domain is two! In all that shows itself directly, there is the transphenomenal that shows itself only indirectly, that very thing is the way out for our mind!

Note:-- What is called “the Princetongnosis” is a group of scholars, in the USA, who hold as their main axiom the fact that the axiomata of the entire cosmos are subject to constant change. As a model of that universe axiom, they play a special type of card game (// EO 235 (Chess Process)) : the players/players can each on his/her turn propose the rules of the game which the others have to guess again and again by actively playing with a part of unknown card rules,

That card game -- so claim the Princeton scholars who advocate a new kind of “gnosis” (paranormal knowledge) -- shows what we are up to, in the over-complicated universe: we have to guess from period to period, from individual to individual in that whole-with contradictory factors (stoicheiosis) what laws govern us! -- It is abundantly clear that such a philosophy involves lemmatical thinking!

Note:-- W.B. Kristensen, *Collected contributions to knowledge of ancient religions*, Amsterdam, 1947, 272, writes what follows.

Babylonian mythology, like the other ancient mythologies, articulates very sharply the contradictory nature of the factors that make up the totality

Note:-- what stoicheiosis is --: in Anoe (Anu) all ‘divine’ (understand: demonic) energies (life forces) are united, because he is the all-encompassing destiny determiner so that and salvation and calamity emanate from him at the same time”. - This double destiny is reflected in what is called “(black) magic”: a black magician does both good and evil! Just as Satan (in the Bible) combines good and evil within himself.

Moral.

What man dreams of as an ideal destiny, rightly or wrongly, leaves the “divine” (demonic) world cold: an Anoe, a Satan are “demonic,” according to Kristensen who is a connoisseur of great stature - i.e. Incalculable from nothing deducible or deducible at once unpredictable. And thus inscrutable-mysterious. “Mysterium tremendum-et-fascinsum” says Rudolf Otto, the phenomenologist of religion.

Conscientiousness-justice is not such a demonic deity: by its actions it denies the laws (presuppositions, axiomata) which it nevertheless imposes on e.g. its adherents! “The ancients were perfectly aware of this contradiction” (o.c., 273).

Consequence: the opaque “ananke” of such deities called for lemmatical thinking.

Study notes.

Preface.-- The term “really” and “reality” occurs numerous times in the text. It means two things which, incidentally, are closely related.

1. All that is approachable, findable, ascertainable, however (in imagination, outside of us) is called “real.

2. All that, starting from the given, is capable of solving the asked, is also called (metonymically) ‘really’ (whereby we refer especially to Hegel who uses the term ‘wirklich’ (EO 217; text to be well known) in that very ontological sense). What makes this second meaning so ontological? Because ontology is ‘theory of reality’. Because we engage in reality by virtue of our understanding of truth, i.e. reality insofar as exposed (revealed,-- apokalupsis (= unveiling, bloottrekking, ‘revelation’),-- aletheia (= truth, being(de) revealed).

Because we ‘see’ reality, our own and those around us, as given-and-as-seen (asked for) with our mind, we are ‘real’ in the second sense. In other words : we do not float with our (wandering) mind,-- far away from all that is.

1.-- Existence/being.

When the question is asked, “What is that ‘real(he)’ or, as it has been said since the ancient Greeks, ‘being(de)’?”; then the answer, since Platon, is clear: all that stands (in fact is there, is given, is provable and testable even) and all that, precisely because of that, exists in one way or another (way of being), is ‘real’(first meaning).

Note --- Ever since the eleate Parmenides, ontology has existed. But it has been intertwined with logic (theory of thought) - theoretical and applied - from the beginning. By what means? Because, at least in the eleatic interpretation, reality bears witness to spirit, insight, sense through and through. Because everything that is real is at once ‘logical’, i.e. susceptible to logical reasoning.

As an aside, there are four major types of “if then” relations (the core of all ontological and traditional logic.)

These are: a. deduction (to infer flawlessly from presupposed data); b, reduction (to try to return from data to the presuppositions on which those data depend);-- c. induction, one type of reduction (to decide from samples to collections (classes) and/or systems (systems)),-- d. lemma (as if given by which one works logically).

-- Traditional thought theory consists of two parts.

1. *The pure or theoretical logic.*

It treats a. the concept (term) and b. the judgment (sentence) as c. elements that make up the reasoning. The reasoning itself is a conditional or hypothetical sentence: “if (all that is, is susceptible of value judgments), then also, among other things, this given here and now.”

2. *The applied logic or methodology (method theory).*

As just mentioned, four distinguished types of “if-then” sentences dominate applied logic (deduction/reduction (induction, lemma)).

What makes logical reasoning so central to traditional ontology? Because “logical reasoning” is: to infer another reality from a given or presupposed reality! “If reality 1, then reality 2; Reasoning is to explore being(s) in a responsible way,--orienting oneself in reality with reason and insight.

Above all, remember that every concept has and content and magnitude. This duality or systechy is expressed in the phrase “all that is something,” where “all that is” represents the extent and “something” represents the content. Cfr EO 08.

2.-- *Preontological/ ontological language.*

Even intellectuals, even high-level intellectuals, do not sufficiently grasp the fact that ontology has its own strictly definable language.

Oppositions such as “becoming/being,” “dream/reality,” “lust experience/reality,” “sign/reality” are characteristic of preontological language. The ontology sees in the first terms of those pairs one kind of reality. Nothing more,

Above all, remember very well the couple “verbal (nominal) / business (real) definition” Why? Because words only acquire meaning, ontologically, when they are defined, after a precise dictionary definition, also and above all on the basis of tests of all kinds against what they must answer to. Science e.g. is more than words!

Also, remember very carefully the two meanings of “nothing.

a. Utter or absolute nothingness is utter or absolute nothingness (no business definition is possible).

b. Relative or relative nothingness is some reality that has a gap.

3.-- Denial Theory.

This chapter unfolds what has just been said.

(A) The absolute nothingness.

It is absolute absence of any reality. Being(s) is transcendental or all-encompassing (there is nothing outside of being(s)). Consequence: all that is outside of being is utter nothingness. EO 18/20.

(B) The relative nothingness. This means void or absence of reality within all that is.-- The “nil negativum” is merely descriptive.-- The “Nil privativum” is value-judgmental.

4.-- The laws of being.

A “law” is a generally applicable statement. It does not tolerate exceptions.

Law of Identity (all that is (so) is (so)) law of contradiction (all that is (so) cannot be (so) at the same time and under the same point of view), law of excluded third (outside of being and (utter) non-being there is no third term).-- Actually, these are three formulations of the same concept of being: “being(s) is itself and nothing else.” This is the identity of all that is.

5.-- Ontology/ metaphysics.

The term ‘reality theory’ is the only indisputable one. For the terms ‘ontology’ and especially ‘metaphysics’ have more than one meaning.

6.-- Transcendental ontology.

The terms “all things”, “everything” - synchronic - and “all that was is will be” - diachronic - express the all-encompassing, nothing - but absolutely nothing outside itself tolerating character of the notion of “reality” or “being(s)”.

Destiny goes hand in hand with the diachronic concept of being, for our destiny is a part of “all that was, is, will be.”

7.-- Modal ontology.

The term “modality” has more than one meaning.-- Either it expresses a being of something (Hegel’s phenomenology) or it expresses a reservation or restriction. -- The differential “necessary/non-necessary/necessary-not” contains the strictly ontological modalities.

Remember very well (EO 37) deduction involves the modality necessity or impossibility (= necessarily not), while every reduction exhibits the modality possibility (so the induction, so the lemma).

8.-- The transcendental.

being(the) or something,-- truth (revelation), value (goodness), unity (= connection: likeness / coherence).

Transcendentalism is necessary conditions or presuppositions for:

a. being able to grasp reality (“being(de)”), b. being able to grasp truth (“being(de) revealed”), c. being able to make value judgments (based on being able to grasp value or “goodness”) d. being able to see connections (either of resemblance (metaphorical or collection connections) or of coherence (metonymical or systemic connections)).-- In ordinary, pre-ontological speech these all-embracing notions submerge (because they are, as it were, innate).

9. -- Unity (connection).

The paleopythagoreans were the first - after perhaps Thales who defined the concept of ‘number’ as “monadon sustèma” (a collection, resp. system of (punctual) units) - who honored a henology or unity theory of a comprehensive nature.

Note that a number, expressed as a number, was, for the ancient Greeks, first of all a configuration, i.e. a set of places in which one placed the (punctual) units. See EO 47 (triangular and square numbers).

Note.-- The term “unit” is ambiguous: on the one hand, it designates the small or punctual unit (“The number five contains five units”); on the other hand, it designates the large or encompassing unit (connection) (“The number five is the unit of five units”).

As an aside, when we say “That’s a twin” it can mean the two together or also one of the two!

Conclusion.-- From an ancient arithmetic, the paleopythagoreans came to perceive, except in numbers (expressed in numbers), in all being either the punctual or the encompassing unity (thus creating a transcendental concept).

Note.-- Now we return to EO 23 (Judgmental doctrine).

There we saw the pedestal of antique and mid-century anthologies, namely the doctrine concerning identity.-- Now there is punctual identity (“I am myself”) and all-encompassing identity (“I am myself only when I see her”).

‘Number’ and ‘number’ -- in antique language -- is always to be understood broadly and thoroughly.-- A judgment is one application of the theory of identity.

1.-- “I am myself.” -- This judgment expresses the fact that I am totally coincident or identical with myself.

2.-- “I am a teacher.” -- This sentence expresses the fact that I am partially identical with my profession.

As *an aside*, partial identity is ‘analogy’. All judgments are instances of identity whether they exhibit the verb ‘to be’ or some other verb. We call this “the identitive character” of all understanding of the relation between the subject ‘original’ and the verb ‘model’. Even the negating judgments are still a matter of identity but in the negate (negating form) of it: “I am not the teacher that was meant to be.” !

Note.-- Tropology.

The doctrine concerning the tropics.-- K.A. Krüger, *Deutsche Literaturkunde*, Danzig, 1910-12, 115, says what follows.

a. The metaphor.

She is “a short comparison” that points to similarity: “The lion is there!”. Understood: by his brisk action he reminds us of a lion who can also act “briskly”. The comparison becomes a metaphor thanks to shortening : “He who is like a lion is there”.

b. The metonymy.

She too is a short comparison but one that points to coherence: “The healthy apples” (example from Aristotle). Understood: by their action, once eaten, apples cause health. The comparison becomes a metonymy thanks to its shortening: “Healthy apples, thanks to their action”.

Association Theory.

If by a one thinks of b, then b is an association of a.-- Behold the rule.--

1. Metaphor.

With Mr. X, one thinks of his briskness reminiscent of that of a lion and so one says in short, “The lion is there.”

2. Metonymy.

When one thinks of those apples, one thinks of their action which brings to mind the result ‘health’ and so one says, in short, “The healthy apples”.

Both the trope and the association - they are somewhere identical - is the application of the transcendental unity-in-a-many or the transcendental identity. In particular: both metaphor and metonymy are examples of partial identity or analogy (proportional (metaphorical) and attributive (metonymical) analogy).

Note.-- The synecdoche.-- Krüger, o.c., 115, translates by ‘Mitbezeichnung’, co-attribution.-- What exactly is co-attribution?

1. *Metaphorical co-signature.*

“An educator is never late” says the inspector. Co-meaning in “an educator” are all (other) educators (one copy represents the whole collection or class).

That’s tropological.-- Now associatively: in explicitly naming one instance of the general term “teacher,” the inspector is actually thinking of all (others).

2. *Metonymic synecdoche.*

“We provide a hospitable shelter” says the kind man. Co-meaning in “hospitable shelter” which is a part of the whole house, is the totality or system that is the house. In other words: all (other) parts of the house are co-meaning!

So much for the tropological aspect. Now to the associative aspect: when explicitly mentioning one part (the shelter) of the systemic concept of ‘house’, the kind man is actually thinking of all (other) parts.

The synecdoche also exists in reverse:

“All teachers are never late” (so among other things, ye are not here and now) says the inspector. Or: “The whole house is one hospitable shelter” says the kind man. -- In those cases, “all” thinks of one or “all parts” thinks of one.

Now read the beginning of the chapter on induction (generalizing or metaphorical and ‘whole-izing’ or metonymical) - EO 94/95 - , and one will soon see that the tropes and associations actually rely on inductive reasoning.

In metaphorical induction - generalization - one starts from e.g. one specimen in order to conclude to the whole collection (all others).

In metonymic induction – ‘whole-ization’ - one starts from one part in order to conclude to the whole system.

Metaphorically, “This is a pen” (co-meaning, associated): “So around are all (other) pens”.

Metonymically, “This is now the Meir” (co-meaning, associated: “This is the living center of the (entire) city of Antwerp”).

Note: a. allegory is only an elaborate trope; b. personification is only a trope that identifies inanimate things with living ones (“The clouds preach storm”).-- Always analogy or partial identity!

Immediately it is clear: the concept of being(s) or reality is a tropological or associative concept. -- this is precisely what the ancient Greeks expressed by the term ‘stoicheiosis’. The transcendental unity doctrine is the unshakable, eternal pedestal.

Two basic forms (“modalities”) of identity.

1. The systechy.

This is the opposition pair or couple. So e.g. “lord/ slave” or “father/ son”. So also “content/ extent” of each concept. Or: the categories (EO 85) as e.g. “thing/ relate” or “quantity quality” etc.

The term “systechy” comes from “su.stoichia”, all that is joint element/ factor.

2. The differential.

This is a systechy with at least one middle term. Thus: all yes/ some yes/ some no/ all no (= none).-- Thus: entirely yes/ partly yes/ partly no/ entirely Cfr EO 24.-- One can see that identity is one aspect of non-identity or opposition: both lord and slave belong to one identical social relation; both ‘yes’ and ‘no’ belong to the same identical relation of affirm.

Conclusion.-- The ordering of data, o.k. comparison, apparently relies on identity and its modalities or forms.

10.-- Goodness.

Platon is the first to grasp clearly and distinctly, in addition to the stoicheiosis or doctrine of order, the all-encompassing character of value.-- Everything that ever was, is, will be, is susceptible to value judgments because, as soon as something is something, it represents value somewhere

Stoicheiosis/ value theory.

That the unification of things - the being - is fundamental, already appears from the fact that everything that can be called good, must also be very-and-always good, otherwise it is called “good-with-preservation”. “Bonum ex integra causa, malum e quocumque defectu” (Is (truly and unconditionally) good all that is whole-and-all good; is not good all that has some defect somewhere). The totality is decisive.

Differential.-- Typical social criticism! See here :

incompetent	expert	incompetent	expert	cf. EO 103:
unscrupulous	unscrupulous	conscientious	conscientious	structural

Immediately one sees that a differential - like a systechy - is a configuration (EO 46) and thus a matter of combining.

11.-- Transcendental ontology: subcourses.

This section orders what came before.

A. General ontology:

creature form (ousia), i.e. that by which something is itself and immediately distinguishable from the rest.-- Do not confuse ontological form with geometrical ‘form’.

In other words, either a given exhibits 'ousia' ('ont-sia', being-ness) or it is absolutely nothing!

B. General ontology

1. Aletheiology truth theory.

'True' - a.lèthès - means unhidden,--unhidden to our minds and therefore true in the running sense.

As soon as something is something, it is: eventually unconcealed, undisguised, unweilable, intelligible, meaningful etc. - One of the properties immediately associated with the bottleneck is the fact that everything - as soon as it is something - must have a necessary and sufficient 'reason' or 'ground' either in itself or outside itself (stoicheiosis).

This is the basis of any reasoning: if ... then ... In Jevons Lukasiewicz's version, this is abundantly clear: if a then b (= principle of reason or ground applied); well, a; so b (= deductive model). - if a; then b. well, b; so a (= reductive model).

The principle or axiom of reason or ground is the same as the basis of the hypothetical method (core of Platonism e.g.)-- This is simply stoicheiosis because as soon as something is something, it becomes both contemplable in itself and in relation to something else (EO 85: thing / relation). Thus it becomes exposed, revealed, 'true' in its totality.

2. Harmology (relationship theory).

See above on identity. See also EO 158 (conjunctions).

Element/Priority.

Stoicheiosis is working with this primal couple that somewhere can count as the summary of all Greek thought.-- Stoicheion te kai archè! Elementum et principium! One applies to ordering as collections and/or systems search; the other applies as the application of the axiom of reason or ground. Now it is the case that the two appear to be distinguishable but not separable.

3. Axiology.-- Value Theory

The fact that, as soon as something is something, it is susceptible to value assessments of all kinds, leads philosophies to draw up value scales again and again - as does every human being. These are merely variants on the one, absolute concept of 'goodness' or value, Namely thanks to stoicheiosis or mutual ordering of goods.

11.bis.-- The hypothetical method.

Platon once departed from the mathematics of the time. This proposed axiomata, from which brilliant deductions (propositions) were made. Platon undertook a fundamental investigation of mathematics and thus laid the foundations for every possible philosophy.

Namely by tracing not only the axiomata of mathematics but the axiomata of all possible human activities. The axiomata of all that is,-- the axiomata of all that was, is, will be. That is the definition of philosophy which is well understood only ontology.

Transcendental/categorical ontology.

Just as the comprehensive being or being reality) differs from all that is within this comprehensive being(s), so the transcendental ontology differs from the categorical.

Often the two run into each other in the sense that philosophers believe that, without entering into one category or another - e.g. mathematics or politics or whatever - , they can speak with sufficient authority about that category! Aristotle, however, emphasized it: 'being(the)' is without categorical determination, an 'empty' concept. Conversely: scientific specialists often think that they can theorize about reality about the general (= the all-embracing being) without seriously entering into the domain that defines ontology.-- Between being about the general and this or that being (categorical being), however, lies an abyss. Only this: the general or transcendental ontology acts like a light that pre-lights. Nothing more! That is among other things what is meant by 'light metaphysics'.

12.-- The dietary synoptic method.

With the theme of the hypothetical method we are in the realm of the archè, principium, premise (axiom).

With this theme we are in the realm of stoicheion, elementum, element. Classifying data, summarizing them, is of course stoicheiosis: diairesis/ sunagogè (sunopsis)! The mutual relations of data are discussed in the form of catagorems (classifying/ summarizing concepts) and categories of pythagorean-platonic and - later aristotelic origin.

Notice how these platitudes work not in isolation but in unison (= stoicheiosis for the umpteenth time).

Conclusion.-- the hypothetical and the dietetic-synoptic method form a diptych as archè, premise, and stoicheion, element, which themselves belong together!

The Platonic dialectic stands or falls by this dichotomy: it distinguishes but never separates.

13.-- The inductive method.

It stands or falls with the doctrine of order or stoicheiosis, as briefly outlined above - in reference to the tropes/associations.

Generalization relies on stoicheiosis that thinks through at least one copy according to the class or general concept (Socrates' concern) or collection.

Generalization relies on the same stoicheiosis or arrangement of data which, following at least one component, bounces through to the collective concept or system or system.

Peirce's situating of induction.

Deduction/induction/hypothesis.-- The diagram is a configuration (EO 46). See:

Deduction.

All the beans in this bag are white. Well, this bean/these beans come from this bag. So this bean (singular), these beans (private) is/are white.

Induction.

This bean / these beans come from this bag. Well, this bean / these beans are white. So - possibly - all the beans (universal) in this bag are white.

Hypothesis.

This bean / these beans are white. Well, all the beans in this bag are white. So: possibly - this bean / these beans come / come from this bag.

One can see that Peirce puts forward as a configuration a scheme of platitudes - two prepositions/one postposition (typical of any syllogism) - in order to move the inflections within it! Remember at least some types of induction, Socrates' masterpiece.

First, the systechy or pair "summative/amplificative induction", because this pair or counter pair is fundamental.

In short, "from all separately to all collectively (summary induction)" and "from at least one copy/part to all copies (collection)/all parts (system) (knowledge-expanding induction)."

The socratic-platonic dialectic.

Studying together was the golden rule of all ancient schools of philosophy (except, e.g., the cynics).-- Why? Because the axiom of study was: not just reasoning, but dialogical reasoning! See EO 49 ("intimately living together suddenly grasping the idea").--- Immediately we see Athenian democracy depicted in that method.

14.-- Types of induction.

A.-- The couple "summative/amplificatory" induction is fundamental. Demonstrate this using EO 114 (Statistical Induction).

B.-- Baconian (cause/effect), operant (educative, operationalist) -- Bridgman --, structural (configurational or combinatorial), similarity -

or analogical (rein inductive and hypothetical), cumulative or convergent - (idiographic), statistical and authority induction.

15.-- Holistic ontology.

Totalities of all kinds - collections and systems keep us busy.

Above all, however, the totality (the system that collects all being) of reality as a whole of all possible being or realities is object of philosophy or ontology.

However, copies and or parts of totalities are within our reach. The inductive method explained that. Practically, only through the very limited and finite channels of categorical realities do we have access to transcendental reality.-- The finiteness of our categorical world in which we are, in fact, at home thus weighs against the possibilities of transcendental ontology.

That problem - the preeminent problem - of contemporary ontology will now occupy us until the end of this course.

Given / sought (requested).

Because we explore in a finite way (inductively: the totality of everything), we live in a field of tension that contains at the same time, on the one hand, the given (= phenomenon) and, on the other hand, the sought (requested), (= transphenomenal domain).-- Until the end of this course, we will take a closer look at that basic system - not only of problem-solving mathematics but of every human activity,-- ontology included -- (what is called in platonic language 'theoria').

Appl. model.-- If - in paleopythagorean premise $1 \times 1 = 1$, $2 \times 2 = 4$ (or : $1 + 3$), $3 \times 3 = 9$ (or : $4 + 5$) etc. is (see EO 47), what will be e.g. 7×7 ? The if-then sentence splits given and asked. Splits phenomenon - that which is (in)seen, because it is directly given, and transphenomenally wanted, because it is only indirectly (in)seen.

By the way: the sequence of the palaeopythagorean square numbers (1, 4, 9, 16, 25, 35, 49, 64, 81, ...) runs parallel to the sequence of the impure numbers (3, 5, 7, 9, 11, 13, 15, 17, ...). In the problem, this is meant to be known (= given). So that a child, knowing the rules, can say that $7 \times 7 = 36 + 13 = 49$.

In Hegelian language: the child's actual or issue-solving response!

The scheme above entails that, when one begins the solution, i.e., the step-by-step solution, one is actually in an axiomatic-deductive scheme.

That this is so is shown indirectly by the proof from the absurd: its premise is that there exists a solution which “corresponds” to the given but not to the asked (D. Nauta, *Logic and Model*, Bussum, 1970, 27), -- solution, however, of which one then shows that it is impossible, inconceivable, absurd by leading to contradiction(s).

What then amounts to a lemma that is pure ‘fiction’, an absolute nothing. Such a lemma does not logically lie on the extension of á given á requested! Solves nothing! Is ‘unreal’ (speaking Hegelian).

Pay close attention to the transition from phenomenon to transphenomenal sought: Herodotos, Anaxagoras et al, -- in their wake Socrates, Platon et al begin with the immediately given to transcend the logically strict i.e. realistically!

- a. the inductivist to achieve generalization / generalization;
- b. the hypothetical method of arriving at conclusions deductively or hypotheses reductively;
- c. the lemmatic method of arriving at hypothesis via reduction which must then lead as lemma to deduction(s).

Where the diastolic-synoptic method actually involves induction (generalization or reverse splitting). See EO 116 (More than one way).

Conclusion.-- Our rigorous logical thinking and living is strained between the immediately given (phenomenon) and the indirectly given (wanted, requested, problem), both of which together make up the totality or “to holon” of reality. That is the holism of ontology and of (applied) logic.

This defines the platonic theoria or fathoming, the thorough (seeking the “ground”) going into all that is. Cfr EO 117.-- The rest of the course illustrates this.

16.-- Phenomenological method.

Not the phenomenology of a Hegel (the modalities of “the mind” in the course of (cultural) history),--not even that of Teilhard de Chardin (the modalities of “life” in the course of (even cosmic) history),-- but that of Edmund Husserl.

Definition: the given is the demanded but in its most accurately described form!

Note that the ancient Greek ‘rhetoricians’ (eloquence teachers) knew a form of collective fact: the fact which they called, as evidence, ‘a.technos’, without any intervening term, and which was both for the speaker and for the audience simultaneously immediately given and ‘evident’.-- From this, as from a logical premise, conclusions (of a practical nature e.g.) could be drawn in a logical manner. See EO 123 (The Greek Rhetors).

17.-- The distinction “phenomenal / transphenomenal”.

Two thinkers are very briefly brought up.-- A.-A. Cournot (1801/1877) and especially Hans Reichenbach.-- “Testing” is deliberate contacting of reality as reality. Or: examining something for its something-ness, i.e. reality.

Reichenbach is a (neo)positivist. So he will first put sensory perception first as the basis of ‘reality’. Preferably by means of instruments: a sick person’s thermometer heat meter is something else - more solid - than feeling his cheek with his hand or seeing the red color of his face! Even though such an instrument is already an interpretation! NI. observing through the ‘glasses’ of the instrument is not an absolute guarantee of radical and, above all, general objectivity. However, it is one sample,--with inductive value.-- Thanks to the thermometer, a vague data becomes a more precise data. It is more ‘given’!

Note.-- Very curious for a neopositivist is a proposal for ‘transempirical’ testing The proposition “Cats are divine beings” can, in his view, be tested one day! This is an overstepping of traditional enlightened rationalism which is very closed to such things.-
- This shows how phenomenological Reichenbach was and how he was phenomenological (EO 09: Essence/Existence):

- a. he saw no rationalist evidence against the divinity of cats (rationalism, if it adheres to the given, has limits: and
- b. he did not see any data so far that directly showed this divinity!

This excludes both refutation and proof in favor of the belief that cats are divine beings,--for lack of proof both by the refutors and the supporters. A proposition in the style of Zenon of Elea: Neither thou nor I (really proves)!

16. -- *Abc theory.*

Actually this is the very useful scheme of hermeneutics or interpretation - or theory of interpretation.-- The occasion is the psychiatric doctrine of Ellis/ Sagarin, who and the common sense and the neurosis (the nervous mind) thus explain. Namely in one type of nervous disease, the nymphomania.

One memorized this diagram very well! A' is the data. B' is the mode of approach, proper to the subject or I (or we, as the case may be), in such a way that it commits 'projection' (thinks to see its own prejudices in the given itself). C' is the final interpretation.

Phenomenologically, 'B' is a disturbance in the perception of the given and immediately in its correct, reality-representing nature. A typical phenomenological failure in the first place. One does see the phenomenon - the given - but one sees it from a sample or perspective in such a way that the pure seeing or perceiving is disturbed.

This is very clear in nymphomania, for example: instead of seeing the phenomenon - a miscalculation (especially regarding sexuality) - in a pure way (as it is), the neurotic makes something up for himself based on the data, but which is not necessarily detectable in the data itself.

Transphenomenally, the 'B' is also a disturbance but now in reasoning! One sees in the given things that are not there! From there one then reasons on.

19.-- *Axiomatics.*

In a way, this is the heart piece of the whole course. Because of what? Because here at last is a theory of definition at work.

Ch. Lahr, S.J., *Logique*, Paris, 1933-27, 496/499 (La définition); 620/622 (La définition empirique).

EO 08 (Content/ extent of a concept) teaches us that the content of a concept refers to an extent (a set of data) expressed in it. All that is concept content in, a set of things, is represented in a definition.

Ground Rule.

De omni et solo definito. So said the middle ages! To render the defined fact in its entirety and to render that defined as distinct from the rest is to render the whole defined and only the defined.

Whether that is the meaning of a word or it is an encountered reality outside the verbal realm, does not matter.

Now reread EO 12: “From the nominal (verbal) to the real (business) definition” counts as the work of science! But it is also our daily life’s work! Otherwise we will not be able to establish a good relationship with our fellow men,-- let alone a good understanding of reality itself.

Original and model

The subject in the sentence is the original, i.e. that about which the saying provides information. The proverb is the model, i.e., the information that explains, defines, typifies the informative original.

We saw S.T. 05 (Tropology/association theory) that there are two basic types of information: a. information o.g. similarity (metaphorical); b. information o.g. coherence (metonymical), both of which come through inductively in the synecdoche or co-authorship.

The definition.

The definition is a mutual judgment in which subject (original) and proverb (model) coincide. such that they are interchangeable (convertible).

When I say, with Aristotle, that “man is an animal gifted with spirit, ‘logos,’” then “man” and “animal gifted with spirit” must be interchangeable. For they refer to the whole of being human and only to the whole of being human. “De omni en solo definito”.

Axiomatics.

We adhere to the Aristotelian view.-- Look closely:

A.-- there is a well-defined domain or area of reality (so e.g., the digits of our number system; so e.g., the conceptions of a political party);

B. -- there are a number of judgments (propositions that strike that domain. - Do ye see the original (the domain) and the model (the propositions that represent it)? They -- those propositions -- strike at the whole domain and only at the domain. If not, they define something else!

Deduction.

That -- domain expressed in propositions -- is presupposed in order to deduce from it. Whether those propositions - axiomata - are proved or not, is neutral for the deductionist as deducible.--Which is not the case for the foundationalist, of course: he, on the contrary, sucks at the testability of the propositions, as Platon did with (the propositions of) the mathematicians of the time who, once set off with axiomata, merely deduced!

a. Phenomenological.

The given or ‘phenomenon’ here is first and foremost the domain insofar as it is expressed in “true propositions” (‘true’ insofar as they blot out the domain).

b. Transphenomenal demand.

Wanted is a set of theorems deducible from that presupposed ‘phenomenon’ or given, namely the axiomata.

They are the algorithm or the step-by-step exposed true propositions that turn out to be deducible from the propositions.-- They extend the phenomenon to the transphenomenal domain that is initially vaguely, as the demand or the problem, given along.

Thus, in the elaborate axiomatic-deductive system, the domain becomes more and more clearly a “phenomenon” to the eye of the logical mind at work.

In other words: a totality of true propositions is at first partially present as given,-- to be increasingly present as ‘evidences’ upon elaboration of the system.

Note.-- The axiomatic induction.

This is one application of the ABC theory. Why? Because invariably those who presuppose - axiomata - choose only a sample (a portion) of all possible presuppositions. That finite number of propositions defines the domain that does appear in its entirety but as distinct, indeed separate from the rest of the comprehensive ‘being’ or reality that includes all possible domains. One sees of the total reality only what the propositions concerning a number of domains allow one to see of it! The rest is transphenomenal. an ‘X’, an unknown! Not exposed by true propositions.

The integer positive number.

Peano has exposed in a finite set of true judgments the domain, namely, the integer positive number. Further than that domain his definition, understand: the finite number of axiomata, does not extend. The rest is not (yet) -phenomenal! Transphenomenal.

Study that very well. Because it teaches to define correctly. This is: to describe a phenomenon correctly - just that phenomenon and the whole phenomenon (the *Omni et solo definitio*).

This is very clearly seen in EO 141, where, by dropping precisely one axiom, the domain (the scope) changes enormously: all negative numbers come into view, are exposed in a number of “true (understand: flottish) theorems”!

20.-- *The fellow man.*

Again the duality “given/requested”! But now from the individual consciousness (sleven) which, of course, is immediately given to us. At least as far as we experience it. For much escapes us. That is the “phenomenon” here. -- Transphenomenal -- however peculiar -- seems to be all that takes place outside our individual consciousness! -- So that there are two worlds:

- a. our inner world, as directly given;
- b. the external world as co-given but not immediately lived through as our inner life and thus “requested.

Behold how modern philosophy, following Descartes, sees these two worlds. It starts from “le sens intime”, the inner experience (understood as a world in itself).

Claude Buffier (1661/1737), a Jesuit, responds to this world split. Instead of “le sens intime” (the individual inner life) he puts first “le sens commun”, the common experience. Also: the common mind (as opposed to the intimate-individual mind).-- In the wake of this, Scottish philosophy (Thomas Reid et al.)

The division into inner and common (shared) world still exists, in this interpretation of things, but pretty much disbanded. Here, not “the thinking me” is central but “the thinking we-in-the-world.”

Immediately, commonsense philosophy is much closer to the ordinary person who does not, like a hyper-rational Descartes, try to prove to himself that he exists -- that, apart from his (initially doubting) consciousness, there is also an outside world and even a god: the ordinary person lives “for himself” not skeptically-erratically (EO 147). From the beginning, the ordinary person lives with others in the same (outside) world.

Mediatism (indirect knowing)/ immediatism (direct knowing).

Mediatism is that philosophical streak which assumes that our knowing, fundamentally at least, has indirect knowledge of things, in that we have “contact” with the given only through intermediate terms.

Immediatism, on the other hand, claims that we are, fundamentally at least, in direct contact with reality.

One sees that e.g. commonsensism is convinced that we know our fellow man directly, even if this knowledge is random (as we saw EO 121 : Tina Turner one knows first superficially and then more thoroughly).

Now it is true that, to the extent that a Husserl deviates from the Austrian school, he introduces a kind of new “sens-intime-thinking”: nails himself so firmly into phenomenological reduction (EO 121: everything is reduced to that which is immediately given to my individual consciousness while “the rest” is put in parentheses) that, in the long run, only the data of that type of inner perception count as given. The rest automatically becomes transphenomenal, of course.

To transcend that individual, phenomenologists then appeal to a “transcendental” (i.e., prior to all possible individual subjects or “I’s”) subject that is then deemed “present” somewhere in each individual I or subject.

Conclusion.-- The intimacy of a Descartes still lives on!

Language Analysis.

Learn well EO 150/152. For with Bochenski’s text on language analysis we enter semiotics (Peirce, Morris) or semiology (de Saussure, structuralism).

Three types of relations - which is actually stoicheiosis - are discussed:

- a. characters, in their interrelationships (syntactics)
- b. signs, in their relation to that which they designate (semantics) or signify,
- c. signs, in their relation to the one who uses them (pragmatics).

With the latter we enter the arena of the signfica ‘rapport theory’, which studies the meanings of signs as a means of communication.-- With phenomenology, semiotics or sign theory is fundamental.

Intentionality.

The catchword of the Austrian school (Franz Brentano: *psychologie vom empirischen standpunkt* (psychology from the empirical point of view), (1874))! But, in fact, a mid-century concept.

Intentionality is all awareness of something: something becomes the object of my attention (consciousness) which, precisely because of that, focuses on it, That focus is ‘intentionality’. Everyday: pay attention to something!

The fellow human being shows up in the mutual orientation between me and him/her: mutual intentionality! “I pay attention that he/she pays attention to me and vice versa”. In this we directly contact the fellow human being. Therefore we are a we-in-the-same-world,--even though we, each have our own, inner, individual world.-- That, at the time, the commonsense philosophy - Scottish school - captured well.

21.-- Formalism (formalization).

One application of the first branch of semiotics, namely syntax.-- What are the axiomata?

1. Semiotics.

- Peano's pasigraphy says it all: "blackened paper"! Graphic reduction reduces everything to "graphism", written sign, to begin with.

- Syntactic reduction: the written sign again reduced to the 'suntaxis', the mutual concatenation, without paying attention to the meaning or the use value.

2. Combinatorics.

The configuration counts: signs connected to each other by joint signs. -- With this, formalism establishes its own stoicheiosis (reflexive and non-reflexive conjunctions; add to this the clarity relation).-- With this, formalism clearly resembles arithmetic-with-signs. and purely 'syntactic'.

3. Logic (applied logic).

In the form of an algorithm or step-by-step reasoning.-- Structure: given/required. See above S.T. 11/12. "If given-, then requested". -- Remember the head math as an example.

The lemmatic method.

EO 164vv..

a. A lemma or as if-unknown arises thanks to reductive reasoning-which ends in a hypothesis.

b. Lemmatic reasoning begins when one treats that hypothesis or unknown as if it were already known (and therefore already given).

Which indicates hypothetical-deductive behavior: one acts as if the unknown were already known (as if-known) and one reasons with it deductively.

Thus, the core is an analysis or reduction that bloots an unknown upon which deductive behavior follows,--with that unknown treated as known.--Cfr. black-box method.

From number math to letter math.

Francois Viète (1540/1603), platonically oriented, applied lemmatic reasoning in that instead of using known (given) digits he calculated with unknown letters. As if they were already known 'digits' somewhere.-- This letter behavior is very common in today's formalism.

Remember the distinction between a syntactic rule and a law : both are 'universal; but the syntactic rule is a method rule.

22. -- Formalism

Letter arithmetic is arithmetic with universal concepts, depicted in letters.

Functional theory, analytic geometry, infinitesimal arithmetic developed out of Viète's letter arithmetic.-- Not least the rigorous logical arithmetic or logistis.

Note.-- More and more, the adherents of the logical 'calculus' are calling their subject 'logic'. This is possible, of course, but on the understanding that traditional, ontologically sound logic is then something else after all! The notion of 'reality' (as all that is determinable, no matter what) dominates traditional logic as an axiom. Even the signs of logistis are realities, subject to ontology and ontological logic. Insofar as they are "something" (i.e., something real). The logicians, however, you will regularly hear say that, due to the fact that only the syntactic slant is valid, "the signs they use have nothing to do with reality (as they conceive it,--in everyday language)". This alone shows the difference.

Three striking phases:

logical algebra (1847+),

logic (especially since Principia mathematica (1910/1913),

metalogy.

The semantic stages.

Behind the term "metalogics" is the doctrine concerning the steps, in semantics (which, in referring to "reality" outside the sign, holds itself out as a doctrine of meaning).

A. Zero-stage.

This staircase moves before any semantics. This implies that it is a purely ontological term! For there is no thinking, speaking, or writing mark yet!

B.1. First semantic stage (object language).

The one who uses signs - language signs - means (= intentionality: called "intentio prima" or "first intentio" by the Middle Ages) the (ontological) reality : "I see that squirrel there picking out a pine cone" .

B.2. Second semantic stage (meta-language).

"I tell you I see that squirrel over there picking out a pine cone." Language talking about language. The one who speaks means (= intentionality: in medieval language "intentio secunda", "second intentio", who pays attention to what is said (better : "I pay attention that I pay attention")) not the reality - called 'object' by the semantics - but the language signs that are pronounced concerning that object.

If one wants: "direct red" (language speech then) is object language; "lateral (language) speech" is meta-language (because it quotes language).

The paradox of the liar.

Here we come into the domain of and the doctrine of semantic steps and the doctrine concerning intentiones! EO 173 + EO 177.

What does “I lie?” mean. As long as one knows only the speech signs, that meaning is an *x*. -- However, when and inner intentio (that to which I direct my attention) and external perceptible language are known at the same time, then the sentence “I lie” means something. I.e.: only then does it reveal information, true proposition blotting out reality.

For he who lies exhibits ‘antifrasis’ (antifrase, i.e. inner contradiction): what he/she says (to the outside world), is accompanied by what he/she says (internally: “I do not mean it as a representation of reality”). In other words: the inner sense is a meta-language - but purely inner: about one’s own language.

This runs in tandem with the traditional doctrine regarding the “inner restriction or reservation” (EO 176).

23.-- Computer Engineering.

Basis: the concept of a dynamic system that processes matter/energy/information. When information is processed, we are in the field of computer science (resp. informatics). Informatics teaches us a triad in the working system: input “black box”/output. But then so that, if necessary, self-regulation is enabled where the result of the output again enters the input. EO 163 (Schematic).

The computer system.

With its equipment and especially software, this type of dynamic or goal-oriented system includes five aspects:

1. Understanding the use of the equipment;
2. Understanding the core of the thought process, the algorithm;
3. structuring the information to be processed (“data”);
4. application to specific cases;
5. Shielding from intruders (computer crime).

Programming.

That is: transform the given and the requested into a logically impeccable sequence of irreducible steps. That is: to form an algorithm.

As in all formalism (Cartesian analysis and synthesis).-- See S.T. 16 (Deductive algorithm). --See now especially S.T. 14: Definition Theory. The whole data and only the (whole) data is “put into the computer” (= programmed). - The algorithm is the true core in that it is a definition.

Life as an Algorithm.

Formalism contains algorithm. Computer engineering contains algorithm.-- EO 179 teaches us that this twofold fact is not accidental: the basic “given/requested” structure governs reality as a process in both cases. But life can also be referred to as a “given/requested”.

Formalism computer engineering yes life is working out the solution. This proceeds algorithmically, in steps. -- It is this similarity between life, formalism and computer engineering that is ontologically revealing. all three are problem solving.

24.-- Deductive method.

Base: the hypothetical or conditional sentence by itself with “if-then” - structure”. With prepositional phrase and postpositional phrase (VZ/NZ).

Reduction (including induction and hypothesis formation) is actually possible deduction. Deduction is the basic type of thinking concerning reality. Whereby induction and hypothesis (lemmata e.g.) formation exhibits the same basic form but restrictively, with reservations.

The reason is: the axiom of (necessary and) sufficient reason or ground. -- In deduction, that reason/ground is there in the first place. In deduction (induction: generalization/ whole-ization; hypothesizing, if necessary as a lemma) that reason/ground is presupposed. -- In Jevons-Lukasiewicz’s formulation: A--B (if A, then B). With two variants : well, A; therefore B (deduction); well, B; therefore A (reduction).

Two applications.

a. Computational computation. Thanks to the data put into the computer correctly (logically) deduce,

b. Ethical calculation from axiomata. In the latter we grope for the over-complicatedness or - as one now recently says - ‘complexity’ of the deductive processing of axiomata.

25.-- Fateology.

The given is the fact that we are situated, -- thrown into life. The demanded is the fact that we must commit (“engagement”) to the solution of the demanded (problem), by designing our lives.-- Behold the central theme of logically rigorous destiny.

It had to come.

This everyday, indeed vernacular expression expresses the deductive of our fates. It means: the actual fate was deductible from the postulates (axiomata). Predictable (for those who know all the data).

A strike is - with reservations (given the premises - with - reservations) - predictable, because deducible.

Thoukudides of Athens in his historiography a. gives the facts, b. but made understandable, i.e. deducible from prepositions.

Hegel.-- Hegel is honor complex figure: he is thoroughly rational but is also thoroughly romantic. Hence, history is central (romantic) but thoroughly rational, because made deducible.

Note, therefore, that the Hegelian deduction of destiny is not abstract reasoning.-- The totality of all that was, is, will be is central (as “the concept” of total reality). Thus Hegel arrives at his historical dialectic i.e. history (collection system of destiny) made deducible.

In this, induction, the taking of samples thanks to experience, plays a basic role. For “pure existence” one does not prove from mere abstract data: existence is a given.-- So what is deduction for Hegel? “From (the understanding of) the living whole to ‘point out’ and ‘understand’ the meaning and place of something.

“All that is ‘real’ is ‘reasonable’ and all that is ‘reasonable’ is ‘real.’

This axiom means: everything that solves the problems and can therefore be labelled ‘real’, i.e. intervening in reality, is immediately ‘reasonable’, i.e. justifiable by reasoning. Yes, deducible from given and requested, deducible. Cfr EO 11.

Thus, a government that does not solve the problems -- the demand -- is “unreal” and therefore “unreasonable” (not rationally justifiable, not deducible from the data and the problem). -- That is destiny dialectic.

26.-- Crisis of ontology.

System building was once a feature of a number of prominent ontologists (Aristotle, Thomas Aquinas, Suarez and Hegel). - In effect, this amounted to elaborating a world and life view, on ontological background, with the resources of the period in which the great system builders lived.

Yet, as Hegel put it, they become “unreal” with time, no longer in touch with the problems of time!

Main cause: those systematists fill up the empty concept of being with mere categorical data that are time-bound and thus become obsolete,--unreal.

Hence the especially postmodern crisis with its endism (“The End of Philosophy”).

1. To substitute the notion of the network as something that hangs in the air, weaving in the air, for traditional ontology and logic, as we explained above, is a form of nominalism that sidesteps the business definition (EO 12) in order to merge into a kind of “virtual reality” (EO 153) and mediatism.-- A notion that seems to attract a lot of intellectuals today.

2. The notion of ‘dismantling’ (‘déconstruction’) as articulated by J. Derrida, among others, counts or with the Greek, Christian and modern (especially German-idealist) traditions. Above all, the universally valid character of every traditional ontology and logic is ‘dismantled’. Yet a Derrida, in a lucid moment, will admit that he cannot do without those traditions!

This shows the dual nature of tradition:

- a. an eternally valid core (which we have tried to set out) and
- b. a time- and period-specific shell (padding, as we saw).

The former is eternally “real” (problem-solving); the latter is “real” for a time (time-bound problem-solving).

In passing: R. Bakker, in a short review of S. IJsseling, ed., *Jacques Derrida (An Introduction to His Thought)*, Baarn, 1966 - in Tijdschr.v.filos. 46 (1986): 4 (Dec.) - says: “No doubt Derrida has made an undeniable contribution to the technique of philosophical writing and reading. But, if a student were to ask me which philosopher he could study to get done with his life questions, I would advise him against Derrida.”

27.-- Being overinvolved.

‘Complex’ which until recently meant only ‘complicated’, means, in disorderly-learning or chaological frame of mind, ‘over-complicated’, not - disintegrable. Not amenable to ‘stoicheiosis’.

Zenon of Elea may have been the first to articulate, strictly logically, the opaque-complexity of reality.

- a. He eliminates the opponent by an “if-then reasoning” that ends in absurdity.
- b. The result, however, in his case is that “neither thou nor I” are unquestionably right.

This proves that reason faces not only unsolved but perhaps unsolvable questions.-
- With Platon we find this in the form of ‘ananke’, the undecipherable, indeed undecipherable fact (hence the aporetic dialogues).

The practical way out: introduce a lemma or as if-data and work with it as a hypothesis.

This Willmann called at the time “the lemmatic-analytic method. EO 229: What remains transphenomenal and yet imposes itself as “somewhere real”, one processes as an assumption. -- We do not know what the metaphysical essence of gold is: yet we work with it!

28.-- Being overinvolved.

Determinism-without-any-other was so far (Einstein included) the rationalist premise. From initial conditions, a system can be predicted (deduction).

Fateology has long known that from the initial conditions of our lives our future is not unless gropingly deducible.

How a dime can roll, “reason” cannot predict perfectly deterministically! The complexity! Theory (chaology), meanwhile, is becoming an intruding element of just about all professional sciences. For the connection between precursors (causes) and sequels (effects) is ‘sensitive’, i.e. disorderly - capricious. This is called the ‘butterfly effect’ (EO 232).

Disorderly systems.

They are rolling doubles.-Swings, i.e. destabilization,-- forked junction (forked possibilities survive / undergo), - crisis (diagnoselessness) are traits.

Psychotherapeutic linkage game theory:

Different prepositions give one and the same result!

Economic chaos theory or chaos management theory (e.g., H. Sérieyx):

The economic facts, since the end of the eighties, disprove the established economic axioms! Thus: the informational revolution, the global outsourcing, the collapse of large economic-political systems (socialism, capitalism) together with the constant changes in techniques!

The stoicheiosis of phenomena gives a spaghetti! Inextricable!-- And yet in it live the entrepreneurs! With lemmata of all kinds.

Conclusion.-- Platon’s philosophy is twofold: a. it contains an eternal core; b. but it also reflects the elements then in place.

Our solution is EO 34: traditionally update. In antique Greek terms: paraphrase, re-say! The course has sought to expose the eternal core as much as possible reflecting current life.

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Sample 2.-- From preontological to ontological language use. (10/17).....	Fout! Bladwijzer niet gedefinieerd.
Sample 3.-- Ontological negation theory. (18/22).....	Fout! Bladwijzer niet gedefinieerd.
Sample 4.-- The ontology of the laws of being (23/28)	Fout! Bladwijzer niet gedefinieerd.
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