7.1.2. Part II, p. 201 to 407
Contents: see p. 401

WDM 199.
3. Phenomenological consideration.
WDM 142 (Scheler: "dasz überhaupt etwas sei"); 44 (encounter); 70 (intentional phenomenology); 98 (Weber),-- they taught us, already in part, what 'Phenomenology' or phenomenal description is.

a. 'Critically,' the phenomenologist distinguishes between
(a) what is immediately given (in one word : given) and
(b) what, by indirect reasoning (de- or reductive; WDM 2; 131: axiomatic-deductive', 135 (reductive);-- 22 (lemmatic-analytic)) is knowable. In short: what is directly knowable ('phenomenon'), is delineated first; law is only indirectly knowable ('reasoned phenomenon'), follows only afterwards.

b. Applied here:
(a) is directly given: the sequence 'day and night', possibly 'summer day and winter day; followed by 'winter day and winter night' (not to mention the polar day (summer) and the polar winter). This is the phenomenon that shows itself directly.
(b) Is indirectly knowable: the cause (explanation).

Lahr labels the sunlight as the "cause" and the Earth's axis rotation as one "condition.
One can also say that both - the sun and its illumination, the axis rotation - are partial causes or joint conditions, which together make up the one cause.

Cf. WDM 99 (7: archè, principle): and the sunlight and the rotation of the axis dominate the phenomenal sequence 'day/night'; they explain them,--and do so as partial causes. Or still: the sequence, 'day/night' is (passive) function of (dependent on) and sunlight and axis rotation:

More to the point: insofar as one includes the seasons, there is a third co-cause: the Earth's orbit around the sun. Those three - solar light, rotation of the axis, orbit of the earth - 'explain' the "(summer-winter) day/(summer, winter)-night sequence". Each separately they are one necessary condition; only together are they sufficient condition or 'cause'.

4. Conclusion: as Bacon rightly said, a clearly understood system of partial concepts (partial ideas) is needed before one can analyze in an orderly fashion (here: experimentation e.g.). Reason' (with its a-priori insights) must be built into experience (with its determinations). Only then can one responsibly induce causality ('action / passion': WDM 84/ 85; 183) e.g..

WDM 200.

II.E.-- b.-- ***The exclusionary rules of John Stuart Mill***.

WDA 135 already taught us Mill (operational method). See also WDM 139, 187. - He too - in Baconian tradition - developed a system of basic ideas, which "reason" works into "experience".

a.-- ***The concordance or concordance method.***

She answers to Bacon's table of presence.

Appl. model.

Hippolyte Taine (1828/1893; known for applying the exact, natural-scientific method to the products of the mind (a work of art, e.g.)), in his *De l 'intelligence*, gives an example.

1. Let us gather, first, a multitude of cases, in which the ear catches a sound: the sound caused by a bell, a cord that one squeezes or that a bow rubs, a drum, on which one beats, a clarion, on which one blows,-- the sound, which makes the human voice reverberate. One sees the analogy of cases.

2. What does one discover? However different one and the same reality: a sound-producing body vibrates and transmits these vibrations through the living center, where they reach the ear. "Cette vibration transmise est l' antécédent cherché". (This transmitted vibration is the wanted omen).

P. Lahr gives the regulative model: "If a multitude of cases of one and the same phenomenon have only one common sign, then this sign is the cause of the phenomenon."

One sees, again, how the time-honored analogy (partial identity) is the foundation of Mill's basic idea or rule of experimentation.

b.-- ***The modification or variation method.***

She responds to Bacon's grading table.

Appl. model.-- Change (gradually) the number or amplitude (also : 'amplitude', i.e., the size (quantity) of a swing, the extreme distance between the endpoints of a wave motion, the maximum pendulum width) of a sounding body, and thou shalt observe corresponding (parallel, proportional) changes in the sound.

Aristotle's rule: the property and its measure (= quantity).-- P. Lahr formulates the regulative model: "Change the intensity (quantity) of a cause, to see if the consequence also varies in the same sense and proportion."

WDM 201.

Or still: “If a phenomenon, when all the signs - except a single one - remain unchanged (just one is changed), is changed along with it, then this single sign is the cause, which one seeks.”

Note --

(1) In anticipation of the third method (the difference method) it can already be said that the modification method replaces the difference method, namely, where one cannot, by one’s own human intervention, eliminate the cause: one is, then, content to modify the cause (gradually) to find out whether the effect is modified along with it.

(2) ***The surplus method.--*** is just a special case of the difference method: “If one eliminates from a phenomenon that part which is the effect of some of the prefixes, then the surplus (the remainder of the dichotomy or complement; WDM 168) of the phenomenon is the effect of the remaining prefixes.”

One sees how the elementary principles of order, briefly outlined above, have their application. At least if, like Mill, one proceeds with spirit (reason and reason).

c.-- ***The difference or differential method.***

She answers to Bacon’s table of absence.

Appl. model.

(a) One makes a tone color (“timbre”) vibrate (reverberate) in the air.

Consequence: a sound is created.

(b) One makes the same tone color work, “vibrate,” in a vacuum.

Consequence: no sound is perceptible.

Obvious conclusion: the air is either cause or partial cause of the sound vibrations, which our ear picks up.

This last test is the negate (WDM 159) - the robbing negation - of the first. Again: the orderly basic ideas are, in Mill’s method, at work.

Lahr, Logique, 588, says, regarding the regulative model : “If a case, in which the phenomenon occurs, and a case, in which it does not occur, have all the signs in common(s), except just one, then this one sign is the cause.”

One sees, e.g., in the term “right one” how our orderly principles “work. If one, at least, in praxis (the experiment, e.g.) works with spirit. And ‘spirit’ is sense of order and arrangement .

WDM 202.

Note-- A grain of science history.

(1) Already William Harvey (1578/1657), English physician, who discovered the circulatory system in 1628 against established Aristotelian opinion, incidentally, asserted "omne vivens ex ovo" (All that lives comes from an egg).

In other words: all that lives, arises from earlier life.

(2) Louis Pasteur (1822/1895), biochemist, founder of microbiology; founder (with P. Béchamp and J. Tissot) of a renewed medicine, confirmed Harvey's conjecture (lemma, hypothesis) (and refuted, "falsified" the "generatio spontanea", life arising from nothing biological, which exists beforehand).

Lahr summarizes Pasteur's work as follows.

a.-- The proposition (hypothesis).

The emergence of living beings (WDM 142) in a fermentable (i.e., susceptible to fermentation) data (liquid e.g.,) has as its cause the presence of microscopic germs, which are in a suspension state in the air.

Notes:

'Suspension' is, in chemistry, a liquid or gas, in which another substance, divided into very small particles, 'floats'.

b.-- ***The verification.***

(1) Pasteur brought the fermentable substance, first, into contact with air, which contained to a lesser or greater degree "organic beings.

(2).1. Then he situated the same fermentable substance in a vacuum.

(2).2. To test them, also, when they were in chemically pure (deprived of every biological element (the negate)) air.-- Do you recognize in them the 'tables' or 'methods' of Bacon and Mill? And our doctrine of order?

Note.-- WDM 181 introduced us to the Ancient Greek Anaxagoras of Klazomenai as the founder of the proof method.

Could it be a coincidence that the one whom Aristotle highly esteemed ("The only sober one among drunkards"), was the first, who, very clearly, saw the cosmos ordered and, in that context, spoke of the 'nous', intellectus, spirit? It even seems that his contemporaries, when they saw him, smilingly addressed him "Here comes the Nous"! In any case: Anexagoras saw spirit, order-giving power and order (sense), at work throughout the universe. Within us is "spirit" and outside us is "spirit" (WDM 66vv: the noble yoke). Both are attuned to each other. Which inhibits any irrationalism.

Note.-- Comparison reveals a relationship between Bacon's and Mill's schemata. Lahr typifies, them as follows.

a.1. Mill's verification method (agreement) is a precisions of Bacon's 'variatio experimenti' (WDM 197), (presence table).

a.2. Mill's verification method, quantified, is a precisions of Bacon's 'productio experimenti' (WDM 197; grading table).

b. Mill's falsification method is a precisions of Bacon's 'inversio experimenti' (WDM 158; absence table). Cfr *Lahr, logique*, 588.

II.E.-- c.-- ***The methodical exposition of a learning system.***

So far, we have checked the ordered behavior, subject-wise, concerning, especially, the natural sciences (physics, chemistry,-- biology).

Are we looking, now, at a mental product "cultural science fashion".

1. Structuralism.

WDM 93 (the greatest names of French Structuralism: de Saussure, Lévi-Strauss, Lacan, Althusser); 148 (de Saussure's syntagma and association, in language);157.

G.G. Granger, Pensée formelle et sciences de l'homme, (Formal thought and human sciences,), Paris, 1967, 1/6, explains how French Structuralism, in his view, goes back to three analogous ways of thinking that all center on the idea 'system', (WDM 87; 109; 141). They are 'system-learning' or, as it is still said, 'system-technological' (systematological).

a.-- The linguistics of B. de Courthenay and, especially, Ferdinand de Saussure (1857/1913). 'Language' is not (so much) a culturally-historically evolving, living whole' ('diachrony'), but (rather) a sign-learning system ('code' or available system of language signs, in social context; 'synchrony'), which one studies outside the historically evolving framework. The pairs of opposites are one core part of it, which constitutes its structure.

b.-- The mathematics of 'bourbaki', a group of young mathematicians, whose collective pseudonym is 'Bourbaki'. Starting, among other things, from G. Cantor's theory of sets (WDM 128v.), they re-founded, since 1939, the entire surviving mathematics and centered it around the idea 'system', characterized by structures (WDM 86). This system is a sign theoretic system (WDM 90: formal or language systems).

WDM 204.

Whereas, before, mathematics was rather problem-solving (“issues mathematics”) activity, it now becomes structural analysis.

Note.-- *J. Piaget, Le structuralisme*, Paris, 1968-2, 22s., says that, above all, three basic structures-invariants (WDM 135)-emerged.

(i).-- ***The order structure.***

Appl. model: a lattice (‘lattice’, ‘réseau’, ‘treillis’).

The set V, consisting of n ‘parts’, gives rise to a set of parts D(V), when one combines these parts, one by one, two by two, etc., - including in it the ‘empty’ set V and the set V itself. Something, by which D(V) contains 2 to the nth elements. -- Behold an appl. model of order structure.

(ii). ***The algebraic structure.***

Prototype: the “group”.

A group is a set of elements - e.g., the negative and positive integers - amenable to e.g., an aggregation (creating a new element of that set) and, immediately, amenable to the “inverse” (reverse) operation (subtraction), which neutralizes the first.

Furthermore, there is a ‘neuter’ (neutral) element (so e.g. the number 0, that, when operations are performed, no new element is generated). There is also ‘association’ : (n + m) + 1 = n + (m + 1).

This is the basis of algebra. And arithmetic.

We refer to WDM 131 v.: summative and multiplicative operations, according to the algebraic structure.

(iii).-- ***The topological structure.***

She supports the ideas of “apposition” (WDM 148), “continuity” (continuous), and “limit” (limit).

One thinks of the simple example of a lump of clay, which one shapes, but does not break through. The number of elements remains identical, the shapes are non-identical.

One can see that the idea of “analogy” (partial identity) is at the root of the three major mathematical structures. They are three types of unity in a multiplicity.

c.-- The “systems technology” of Martial Gueroult (1891/1976).

I.p.v., like J.-P. Sartre, in analyzing Descartes’ works, to pay attention to existential choice (i.e., the spontaneous preference, appreciation, value attribution, for something,-- here: geometry as a model of science and philosophy), *Gueroult* pays attention to Cartesian philosophy as a sign-learning system. With a well-defined structure.

WDM 205.

The materials are **(a)** Descartes' assertions and **(b)** eventual, testimonies. But, in his *Descartes selon l'ordre de la raison*, (Descartes according to the order of reason), Paris, 1953, he puts forward the idea of 'relative closed system' (WDM 146). In it, he accommodates the 'logical consistency' (= logical coherence; WDM 30: absence of contradiction) of Descartes' statements.

Summary:

(1) All three styles of thought - linguistic, mathematical and philosophical - conceive the object of analysis as a sign, resp. a set of signs : linguistic, mathematical, philosophical - textual signs. These signs obey (are governed: WDM 7 (principle)) a system, with its typical coherence.-- This is central to Structuralism (cfr WDF 51: sign).

(2) The childlike summoning (to see connections, totalities,-- systems), which Piaget analyzed (WDM 136/139), takes place, at least according to Piaget, according to structural principles. It runs, around the age of eleven - twelve, into conscious structuring,--after it was, to begin with, done unconsciously. By emphasizing that type of unconscious act (cf. depth psychology), one aspect of the Structural method approaches Psychoanalysis.

(3). Not surprisingly, the Structuralists also approached systems theory (WDM 69v.), as von Bertalanffy, among others, deployed it.

2. *The text edition of de Saussure.*

We now explain the structure of *Ch. Bally/ A, Sèchehaye/ A. Riedlinger, publ., Ferdinand de Saussure, Cours de linguistique*, Paris, 1916-1; 1931, 7/11 (*Préface de la première édition*).

The three disciples of de Saussure outline the method, according to which, from the testimony of the living teaching of their world-famous prof, they purified the book (WDM 197: Bacon's "bee" alike). The basis is systematic (ordered, reasoned) comparison.

(1).-- *The given and the wanted.*

(a) -- *Given* (situation).

The publishers had followed the teaching of de Saussure, who had died, before publishing his work.

The corpus (i.e., the total collection or inventory (WDM 125) of texts) consisted, in 1913, of very scarce notes : "It was necessary to resort to the notes noted by students - during three series of conferences, at the University of Geneva (1906-7; 1908-9; 1910-11)."

WDM 206.

Conclusion: the summative induction (inventory) takes precedence, which ensures the completeness of information.

Requested (task).

In virtue of he corpus make a faithful reconstruction of de Saussure's doctrine,--both in its elements and in its totality (as a system).

(2).-- ***The analysis.***

The hypothesis (lemma, regressive reduction) is: there is, in that corpus, something like a coherent doctrine (system). The analysis

(a) assumes that, if there is a consistent doctrine, it must then, by methodical comparison of the texts, be discoverable (progressive reduction or 'deduction'): one designs the research.

(b) The analysis verifies (verification/falsification), by testing (peirastical or inductive reduction), whether the system sought is in it.

(b).1.-- ***The content.***

"What were we going to do with these materials? A first text-critical work was necessary for every course and for every detail of it. One had to compare all versions ('en comparant toutes les versions'), in order to penetrate to the thought,--a thought of which we possessed only 'echoes' and even then sometimes contradictory echoes. De Saussure belonged, after all, to the type of people who constantly renew themselves.

(b).2.-- ***The form(s).***

Publishers are now asking the question of style (stylistics).

"And after that? The textual form, peculiar to oral education, often in conflict with the form, peculiar to the book (to be made), presented us with the greatest problems."

Note.-- One recognizes, in the dichotomy 'content/form', two of the three main traits of traditional rhetoric (WDM 2; 12; 118; 180), namely, the invention, arrangement and shaping of the ideas of a text to be created (textuology).

With regard to the design, possibilities (WDM 38vv.: modalities) offered themselves. And namely a system of possible text forms. In which the methodical examination of the design (= 'spirit') reveals itself. Four possible text forms offered themselves:

WDM 207.

(1) Issue everything in its original text form;

(2) publish just one course;

(3) publish particularly original (de Saussure's own) sections of text (WDM 5; 106; 168);

(4) from the totality of the corpus - including de Saussure's personal notes - produce a text of their own.

So much for the a-priori possibilities.

The empirical choice from the sum of possibilities.

Proposers explain their choice.

We dwell on it at greater length because this is an aspect peculiar to, e.g., the final works (essays by final-year students).

a.-"Publish everything in its original text form." -- This was impracticable. "The repetitions, inevitable in a loose exposition,-- the overlaps (by which portions of the text are, in part, identical), -- the changing wordings,-- this alias would have given, to such a mode of publication, an uneven appearance." (O.c. 9).-- In other words: the stylistic unity would not have been there.

b.-- "To confine oneself to just one course" -- and then again, which of the three courses given by de Saussure? - amounted to stripping the book (to be made) of all the riches, which were abundantly spread over the two others.

Even the third, the most definitive, would not, by itself, have been able to hang a complete picture of the theories and methods of F. de Saussure." (Ibid.).

One sees : the whole system is the stake.

c.-- "It was proposed to us that certain particularly original portions of the text should be written as they were available. Although this pleased us, at first, it soon became apparent that this method would disfigure the thought of our master.

After all: only fragments were brought across the bridge. And this, of a construction, the value of which only becomes apparent when it is there in its entirety". (Ibid.).-- One sees the system idea is the stake.

d.-- "We have, in the end, stuck to a bolder way out.

This one, we believe, is also more rational:

(i) on the basis of the third course,

(ii) make a reconstruction, intended as a representation of coherence ("synthesis"),

(iii) yet such that we used the totality of all available textual materials, including the very scarce notes of de Saussure himself." (Ibid.).

WDM 208.

One sees it: it has become a commemoration, in which the personal element of the drafters plays a part.-- Just like any good final work, by the way.

Conclusion: the evaluative reduction.

The "evaluation" or summary value judgment reads as follows:

"We ventured into a recreation, which was all the more precarious, the more it was supposed, at the same time, to be a perfectly correct representation of de Saussure's thought. From such work of comparison and reconstruction, the book emerged". (Ibid.).

One sees it: as Bacon put it, both a-priori design of the sum of possibilities and a-posterior ('empirical') elaboration of at least one of those possibilities make for a methodical, ordered work.

To speak with Imm. Kant: without the illumination by preconceived (a-posterior) ideas (here: possible operations of the text material), the drafting is 'blind' without the elaboration, a-posterior (empirical), the sum of possible operations is 'empty'. The two belong together.

This is reminiscent of the fundamental principle of the ethics of S. Thomas Aquinas (1224/1274), the top figure of medieval Scholasticism: it begins with the distinction between 'actus hominis' -(an act of a human being,-- without an actualized 'spirit', e.g. what one does scattered, drunk or haphazardly --) and 'actus humanus' (a human act,-- with actualized spirit (reason and reason actively involved in it)').

The work of de Saussure's students was an 'actus humanus', an 'act of humanity', testifying of 'humanitas', human level. Humanity is to work in an ordered way**.**

II.E. -- d -- ***The methodical analysis of a sacred phenomenon.***

We remain within the sphere of Structuralism. In order to analyze in an orderly manner the various and very confused forms of totemism (an Archaic religion), *Cl. Levi-Strauss* (1908/2009), as a cultural anthropologist, first proceeds summarily, in his *Le totémisme aujourd'hui*, Paris, 1962.

Explanation.

Bibl. st.:

-- *M. Besson, Le totémisme*, Paris, 1929,-- esp. o.c., 69/75 (*Le problème totémique et les théories pour l' expliquer*); (The totemic problem and the theories to explain it).

-- W. Schmidt, *Origine et évolution de la religion* (*Les theories*), Paris, 1931, 139/156 (*Le totémisme*);--

WDM 209.

-- Nathan Söderblom (1966/1931, professor at Uppsala and Leipzig*), Das Werden des Gottesglaubens (Untersuchungen über die Änfänge der Religion*), (The Becoming of the Belief in God (Studies on the Beginnings of Religion),), Leipzig, 1926- 2, 93/156 (*Die Urheber*).

-- *J.F. MacLennan, Primitive Marriage*, London, 1866, unveiled, for the Western world, the phenomenon of totemism, in the form of exogamy: in certain cultures, the family (the family) and the voice consider themselves "related" to, "part-identical" with some kind of animal,--so much so that this decides, to a very high degree, the marriage.

1. ***In passing:*** *S. Freud, Totem und Tabu* (*Einige Uebereinstimmungen im Seelenleben der Wilden und der Neurotiker*), (Totem and Taboo (Some similarities in the soul life of the savages and the neurotics)), Leipzig, 1913; 1922-3, -- in the wake of *W. Robertson Smith, Kinship and Marriage in Early Arabia*, Cambridge, 1885, as well as of Ch. Darwin and Atkinson (concerning 'primal horde') develops a theory, which was strongly contested by anthropologists among others, but is not without Psychoanalytic interest.

2. In broad terms, totemism boils down to this: a single person or a group assumes that he/she is descended from an object (felt to be alive), a plant, an animal or, at least, that he/she is related to it.

"The members of a particular clan identify themselves, to a certain extent, with the totem, whose name and special markings they bear. They are forbidden to kill, eat, or, even, touch the totem". (*P. Schebesta, Origin of Religion* (*Results of Prehistoric and Ethnographic Research*), Tielt/ The Hague, 1962, 70).

Further: the totem is often equipped with supernatural powers (WDM 17); it offers, in danger, help and protection.

Note.-- All specialists agree that the phenomenon is very complicated and not yet entirely transparent.

The a-priori sum of possibilities.

According to the Structuralist Lévi-Strauss, an analysis proceeds as follows.

(1) The object,-- here: the totemism, is given.

(2) The demanded is an analysis of at least two terms, however related to each other (WDM 203: system).

This analysis proceeds, first, summarily regarding the possible modalities) relations.

Thus Lévi-Strauss introduces, purely speculatively (a-priori, as a lemma), the following scheme of possibilities.

WDM 210.

Nature culture	category group	category person	single person	single group

Note **--** One sees, again, the configurational or combinatorial basis (WDM 114; 136; 153; 189) : all empirically determinable data are fitted in pairs into the above scheme: --Any 'place' (box), for that matter, of nature (object, plant, animal,-- either individual (singular) or grouped) fits a data from culture (i.e., a totemic form).

Says Lévi-Strauss, o.c., 22s.: "All these terms are arbitrarily chosen,-- calculated, to distinguish in each (fourfold) series two modes of existence--one collective (the group or category), the other singular."

To underscore its purely speculative (lemmatic, hypothetical) nature, he says: "In this preliminary stage (of Structural Analysis) one could choose any terms - in the place of 'nature' e.g. 'x' and in the place of 'culture' e.g. 'y'; etc. - could be chosen, if they were distinct". WDM 90: formal systems, as abstract as possible.

The empirical (aposterior) testing of possibilities.

Having designed a theoretical system of possible totemisms, now the actual, factual system of established totemisms, illuminated by the a-priori designed system.

1.-- ***The Australian totemism.***

It has social and gender characteristics: there is a relation (alignment, kinship) between a natural category (a collection of phenomena,-- objects, plants, animals), on the one hand, and, on the other, a cultural group (a religious society; the totality of men and women).

In Existential terms : a group knows itself religiously connected ('commitment') with e.g. the phenomenon of thunder, the object (a lucky stone), the species (kangaroo e.g.).

2.-- ***North American-Indian totemism.***

A sometimes through very raw and severe 'trials' - knows itself to be connected (descended, related) to a natural category as above).

WDM 211.

3.-- *The Motor Type of Bank Islands.*

This is geographically located in the North of the New Hebrides.-- A newborn is considered to be some embodiment (in the broad sense of that word) of that plant, of that animal, which its mother either finds or consumes, at the time she becomes aware of her pregnancy.-- This is a commitment "nature's singularity/cultural person.

4.-- *The Negro-African "totemism".*

The cultural group - e.g., some local people - knows itself to be engaged with precisely one "sacred" (sacred) individual from nature - e.g., one crocodile - locally, whom it, collectively, venerates and protects.

Concluding remark.

C. Lévy-Strauss, o.c., 24; states:

"**(1)** Purely logically, the four compounds are equivalent ('équivalents'). Reason : they are generated by one and the same operation.

(2) in fact, however, only the two first totemisms - category/group and category/person - were ranked under the actually used name "totemism. By which Lévi-Strauss insinuates that, until before him, ethnologists did not operate strictly logically. The empirical language, after all, does not correspond to his a-priori designed system.-- Perhaps, to that end, real, but no longer Structurally Justifiable reasons exist.

II.E.-- e.-- *The methodical analysis of a value choice*.

With this we enter the axiology (WDM 74vv.).

(1).-- *J. Pucelle, Le contre-point du temps* (*Méthodologie de la liberté*), (The counterpoint of time (Methodology of freedom)), Louvain, 1967 (a work, which, with *La source des valeurs* (The source of value), and *Le règne des fins*, (The reign of the ends), constitutes a trilogy), discusses, in a second chapter, "*the labyrinth of exchange solutions*" 'alternatives'.

It is a kind of 'axiomatics' (propositional system) -- (WDM 23; 136;-- 131)--of choosing.

a. Freedom involves choice, yes, a plural of choices, possible, (again: the modal side) choices.

b. Ordered choosing presupposes, as light thrown on choosing as an act, totalization (summering) of possibilities. Steller sees five:

(i) the exchange solution (alternatively, one or the other);

(ii) preference (preferring one over the other);

(iii) the variety (now one thing, then another);

(iv) the aggregation, (op(a)hoping) (the one and the other);

(v) the refusal (neither one nor the other).

WDM 212.

When, therefore, someone ‘chooses’ and he/she has at his/her disposal more than just one value (good), then the system of possible configurations (= combinations) illuminates ánd the plural of what can be chosen ánd his/her act of choice. The ‘mind’ (intellect and reason) is, also that : commit distance with respect to what can be chosen. To see possible choices, possibilities. This is one of the forms of the light our mind represents. This means that we, as ‘mind; possess ideas and a plurality of ideas, but united into some system (coherent whole), with which we approach the actual data.

With *Max Scheler* (WDM 42; 62; 75), in his *Die Stellung des Menschen im Kosmos*, Darmstadt, 1930, 60, we can call this in Platonizing tradition, “act der ideierung” (ideative act). Scheler labels this “ideation” (Ideierung) as “Entwirklichung” (depriving something of its massively factual character), “de-realization”.

Therefore, in his view, man, as spirit, is “der Neinsagenkönner (the one who can say ‘no’ (WDM 157vv.: the negate)). In this there is something ‘Ascetic’ (something ‘ascetic’; something of a mortification),-- he adds.

In other words, man as spirit does not enter (the negate) without more into the given; he transcends (transcends) it, by not simply entering into it.

Applicable models.

1. We saw, WDM 9vv, what “wisdom” (general development,--if necessary carried through into one specialization or another) meant.

Well, *R. Schärer, L’homme devant ses choix dans la tradition grecque*, (Man facing his choices in the Greek tradition,), Louvain, 1971, describes how the Ancient Greek, as models for solving problems, had at his disposal the hero, the sage and the philosopher.

Each of those three paragons reduces

(i) a given situation to a switch solution (alternative , i.e. a choice ‘for or against’ (one or the other);

(ii) in doing so, they appeal to values, which, act as ‘norms’ (guiding), -- and in such a way that, if the hero, the sage or the sage does not (the negate, the omission) honor those values, in his choice, he commits boundary crossing (‘hubris’, also ‘hybris’),-- which, sooner or later, is corrected by ‘Nemesis’, recovery of the error committed.

WDM 213.

In other words, the hero (who was considered a form of "wisdom"), the sage, and the sage,---they believe in an objective order, in which one can, indeed must, be labeled as good (conscientious) and the other as evil.

In contrast to the "divine" (understand: demonic) "harmony of opposites" (WDM 170: "totality"), the Greek man, insofar as he/she follows that model, chooses between good and evil,-- alternative.

And, in doing so, he/she knows through an Archaic and sacred tradition, that something like an "immanent sanction" (a punishment built into his/her life) awaits, if he/she does not choose well.

2. *Reinhold Niebuhr, Christ and Culture*, London, 1952, talks about the relation (partial identity) "Christianity/(Renaissance) culture.

Since the Renaissance, the West, not without recuperating pagan antiquity, has known an idea of "culture" that is distinctly secular (worldly, "worldly", earthly) (and, therefore, disregards a number of sacred (and, among other things, ecclesiastical) values).

Hence the problem of choice.

a. - *Bib. st.:* *Fr. Hermans, Histoire doctrinale de l' humanisme chrétien*, (Doctrinal history of Christian humanism), i/iv, Tournai/ Paris, 1948 (in which people such as M. Ficino, Pico della Mirandola, Lefèvre d'Etaples, Erasmus, Thomas More (who was canonized), Francis de Sales and others, who, in the Renaissance period, tried to Christianize 'Humanism', are brought up).

b. Yet one should not be fooled by Hermans' work: there are other, indeed opposite, choices. Cfr WDM 159 (tension theory). These show the tensions that occur between Christianity and Humanism, when both want to establish the same culture at the same time. This, with partially different, yes, sometimes contradictory ideas.

Thus, Niebuhr distinguishes five types of choice.

1. The ***Tertullian/ Tolstoy*** type: between Christ (= Christianity as a cultural factor) and (Humanist) 'culture' there is irreconcilable enmity.

2. The ***S. Augustine/ Kalvin*** type: the (Humanist-Heathen) culture is thoroughly "sinful," but Christ converts, restores the "man" of Humanism, also culturally.

3. The ***Martin Luther*** type***:*** there is a relative irreconcilability between the believer, who serves Christ, and the sinner absorbed in (Heathen-Humanist) culture; yet there is a certain preservation of a sincere appreciation of culture.

WDM 214.

4. The type of Saint ***Thomas Aquinas*** (1225/1274; top figure of Scholasticism; still honored by the present Church as paragon of philosophy,--though in a Neo-scholastic form): Christ transcends ('transcends') culture, but contributes to it - in an essential way (Christianity as an integral part of culture).

5. The type of the ***Waldorf interpretation*** of the Christ figure: Christ brings the "true" (understood in the Waldorf sense) culture.

Note **--** WDM 195 taught us the polarity profile. Well, it is clear that Niebuhr's five positions (value choices) range from radical rejection to radical endorsement. Which proves that the 'polarity profile' thinking scheme holds water.

It can help us, Christians, in today's controversial issues - think of the abortion issue, where some Christians, in contrast to the First Christians, who radically rejected abortion, are in favor of abortion, as it were, without any distance from their own natural inclinations - to first consider the scheme of possibilities before we "choose". Only then is the choice rational.

II.E.-- f.-- ***The methodical analysis of a sign indication.***

We outline, first, a mini-theory of the sign ("sense", "symbol").-- WDM 2 (logistic-mathematical sign language); 51/53.1 (most general definition; distinction between logistic-mathematical and purely philosophical-logical signs (semiotic: syntactic, semantic, pragmatic;-- symbol theories);-- 203 (Structural sign language and sign analysis).

(1) Fr. Walgrave (WDM 51) defined 'sign' as "a concrete representation, which, by its being known, carries consciousness over to the knowledge of something else." Which is an application of the general model theory (another applicative model is e.g. the measurement model (WDM 110)). 'Model' is, after all, all that which, to the knowledge of an original (the lesser or unknowable), provides information.

(2) *Father Lahr, Psychologie* (1933-27), 421/448 (*Les signes et la langage*), defines as follows : "One understands by 'sign' ('signe') any phenomenon which is perceived and which - in the mind (intellect/ reason) - gives the idea of another either absent or inaccessible phenomenon."

WDM 215.

Interestingly, in Lahr's definition, he speaks the language of the Antiques. "En de ou polemou katharou ta fainomena sumbola" (What was visible (the phenomena), was the sign (literally: 'the signs') of an alienating war)" (Heliodoros, Aithiopika (WDM 26), I, 1, 1:4).

In other words, expressed in model theory: the phenomena, as far as known (and thus informative) provide knowledge (information) about what is not (sufficiently) known, the original. The sign par excellence, in every human life, is language.

Lahr, o. c., 425, defines, signologically, what language is: "Language is a system ('système') of signs, which are deliberately ('volontairement') employed to express thought." By "thought" Lahr - he is a Frenchman and, therefore, Cartesian influenced - understands not only the rational-intellectual aspect, but also the mind and will aspect of our inner life.

In other words, with language we step outside the introspective realm.

In short, language is a system of means of expression. Which brings us close to the signifier ('significa'), as it was designed by *Lady Victoria Welby*, an Englishwoman, who was once a lady-in-waiting under Queen Victoria (1819/1901), in her *What is Meaning*? (1903), was designed.

Bibl. st.: *G. Mannoury, Significa and modern conceptual criticism*, in: *B. Stokvis, Psychology of Autosuggestion and of Suggestion* (*A Significant-Psychological Exposition for Psychologists and Physicians*), Lochem, 1947,11/14.

The signifier analyzes the relationship under the point of view of influence, of any kind. In other words: we influence each other by means of signs. Language, for example, is more than mere neutral information; it is, in part, influencing one's fellow man,--even (perhaps especially) when we do not (consciously) want this.

'Thought', as defined by Lahr, is, already in itself, without the will to affect, more than mere intellect.

Note.-- We refer but do not dwell on two more sophisticated theories of sign and language , indeed, signification. These are:

a.-- The semiology of de Saussure (WDM 148).-- It is centered red the idea 'system of pairs of opposites'

b.-- The semiotics of Ch.S. Peirce (WDM 8). It revolves around the idea "I communicate something to someone" (triadic structure).

WDM 216.

Note -- Bibl. st.:

-- *B. Toussaint, Qu'est-ce que la sémiologie*?, (What is semiology?), Toulouse, 1978;

-- *M. Bense, Semiotik* (*Allgemeine Theorie der Zeichen*), (Semiotics (General Theory of Signs)), Baden-Baden, 1967;

-- *U. Eco, La structure absente* (*Introduction à la recherche sémiotique*), (The absent structure (Introduction to semiotic research),), Paris, 1964.

-- In the wake of Peirce: *C.W. Morris, Foundations of the Theory of Signs*, in: *International Encyclopedia of Unified Science*, I, 2, Chicago, 1938 (known for its tripartite 'syntax/ semantics/ pragmatics').

Two types of characters.

A sign is understandable only within a relation (partial identity) . - This includes:

(1) the one who grasps the reference from the sign to the be-sign,

(2).1. the sign itself and

(2).2 the (signified) indicated by the sign.

The reference itself, like any partial identity (analogy), is two-sided.

a.-- The iconic sign bears a resemblance to what it means.-- Think of a map.

b.-- The indicative sign does refer to the signified, but only within a systemic context.

Think of a signpost: it stands in the middle of the natural and cultural landscape, where it indicates the direction.

Compare with the distributive and collective structure (WDM 86v.).

Or consider metaphor and metonymy (WDM 117). The map is metaphorical, the signpost is metonymical.

Man as a meaning maker.

Bibl. st.:

-- *O. Pöggeler, Hrsg., Hermeneutische Philosophie* (*Texte von Dilthey, Heidegger, Gadamer, Ritter, Apel, Habermas, Ricoeur, O. Becker, Bollnow*), Munich, 1972;

-- *P. Ricoeur, Le conflit des interprétations* (*Essais d' herméneutique*), Paris, 1969;

-- *H. Arvon, La philosophie allemande*, Paris, 1970, 116/120 (L' herméneutique), where it is said that Schleiermacher (1768/1834) is the first, who, in Germany, launched the idea 'hermeneutics' theory of interpretation in the thorough and broad sense. In the USA, with Ch. S. Peirce, we stand for a second, thoroughly different approach to the theory of meaning (= interpretation or interpretation theory).

-- *W.E. Gallie, Peirce and Pragmatism*, New York, 1966, 118ff. (Why does Peirce maintain that every sign requires another sign to interpret it?);

-- *K.-O. Apel, Hrsg., Schriften, I und II* (*Zur Entstehung des Pragmatismus; Vom Pragmatismus zum Pragmatizismus*), Frankf. a. M., 1967/1970 (a more detailed introduction).

WDM 217

Meaningfulness -- clarity.

WDM 153v. taught us ‘one-animal’ ‘one-many’ and ‘many-animal’. One sees, immediately, that these are ways of interpreting, making sense, attaching meaning. And an ordered system of interpretation types, in which ‘spirit’ is present.

Sentencing/Foundation.

When one goes through the two great doctrines of interpretation (Schleiermachian hermeneutics and Peircian doctrine of interpretation), one quickly notices that there are two thoroughly different types of interpretation

(1) -- *The sentence summary.*

(a) Grasping the natural sign.

Father Lahr, Psychology, 421, gives as an example of ‘sign’ the fact that “smoke refers to fire”; that “the bones of plants refer to spring”! This means that here “referring to” is the same as “belonging to. Again: there are two fundamental modes of ‘belonging to’ (being implied, being implied).

(i) An element belongs, distributively, to its set: when, in a forest, I suddenly see an animal, with its well-defined traits, whirling away and, at the same time, say: ‘There are hares here’, then I see (rather, I indicate) one element of a set. The fact that a hare jumps away is the sign of the fact that there is a multitude (collection) of hares. WDM 86 (collection).

(ii) A part belongs, collectively, to its whole: when Lahr sees smoke, he denotes it as the sign of the fact that there is, was, the whole of fire, to which the smoke, as a part (subsystem) belongs. One can also say, “Smoke is implied by fire.” Or, “Smoke is inherent in fire: WDM 87 (system).

(b) *Capturing the artificial sign.*

We spoke, WDM 216,

(i) about a map: we grasp it as a sign of the landscape depicted in it (o.g. resemblance),

(ii) about a signpost: we understand it as a sign of an indication of the direction to be followed (in terms of cohesion, i.e. within the landscape). - Again: the distributive - similar and the collectively coherent structures specific to collection and system.

Conclusion.-- Whether it is about the natural sign or about the agreed upon (artificial) sign, in both cases the grasping is one-another. Otherwise one does not grasp the sign. Here, knowing and correctly rendering the sign is the stake.

WDM 218.

Note.-- The analogy, partial identity, is, again, the basis of grasping signs. And the method -- consciously or, especially, unconsciously -- is the comparative method. To grasp a sign is to order it.

2.-- ***The zinc foundation***.

Appl. model.-- Let us take an example, taken from Hegel.

Sets a beautiful red apple.

(i) The hungry boy, who sees it, at home, lying in Mommy's basket, is - says *Hegel*, in his *Aesthetics*, where he speaks of the satisfaction of desire - "covetous" of it. And that is, to the apple in its physical reality. He eats it.

(ii) The artist, however, also sees the same apple. But his attribution of value ('desire'; WDM 75: vital and aesthetic values) is different: he is not interested in physical reality, but in the form of essence (forma: WDM 28), in its aesthetic side (WDM 192). He labels (indicates) him e.g. "What a lovely apple!". He grabs canvas and brush, with paint, and begins to render him, "because he finds it so beautiful".

Compare the two zinc foundations, i.e. value estimates.

(1) As Hegel says: "Desire knows nothing of the pure form of being, in its aesthetic side. It wants to eat the apple". But the aesthetic desire avoids eating it and wants, 'desires', appreciates, the aesthetic form of being.

(2) Who does not see that, this time, meaning-making is done from the subject, from the meaning-giver as founder of meaning? There is an 'Existential' (WDM 16; esp. 63: design), i.e. one interwoven with its own problems, meaning-making at work. The choice, interpretation (interpretation in this sense is a type of choosing), is first of all auto-implicative: the choosing-identifying self proceeds, first of all, from its own scale of values.

In this sense, that I puts a sense in the data, which, taken in isolation, was not there : the I establishes sense.

Bibl. sample : *J. Kruithof, The meaning-giver* (*An introduction to the study of man as a signifying, appreciating and acting being*), Antwerp, 1968.

In this book the sense of purpose prevails: "We call the activity of man, in which he - with the help of principles - structures himself as a totality, situates himself in the environment, in which he is placed, and orientates towards the development of this environment." (o.c., 504v.).

WDM 219.

Here the emphasis is, apparently, on the act itself. But this act, the act of interpretation or interpretation, is multifaceted: the grasping of meaning may

(a) grasping **a.1.** an element in its set, **a.2.** of a part (hyposystem) in its system are;

b) the grasping of the I-involved value situates the grasped in the life, in the "design" (value system), of the one who grasped the "meaning for-him-or-herself of it.

The Germans sometimes speak of "hineininterpretieren" (putting one's own interpretation, without sufficient reason, into the interpreted).

The methodical analysis of sign reading.

At last we have all the elements to grasp what follows.

Bibl. sample**:** *John Cohen, Chance, skill and luck* (*The psychology of guessing and gambling*), Utr./Antw., 1955.

Applicable model.

o.c., 165vv., discusses one model of sign indication by children.

a. The audience are ten-year-old girls. The stimulus (= sign, -- here :'stimulus') was, "What does the sentence mean: 'It will probably (WDM 54; 164 (possibly)) rain'?"

Behold the fact.

The demanded: the right answer to that stimulus: i.e.: the right interpretation or interpretation. Say: the problem, the commitment of every teacher!

b. The answers.

Girl 1.-- "It is very plausible that it will rain.-- I suppose it will rain (...). I'm not sure it will rain. (...). I don't know whether it will rain or not.-- I believe it will rain".

Girl 2.-- "The word 'likely' means that it 'could' or 'might' rain. Or : that it is very plausible either that it will not rain.-- It means that you are not sure if it will rain;

Girl 3.--"It might rain. I think it will rain; I am sure it will rain. I doubt it will rain".

Girl 4.-- "It might rain heavily. There might be thunder and lightning. It would be fun : you will, probably, have a lot of fun with it. He will probably come and get you".

WDM 220.

c. *Statistical.*-- Of ten-year-old girls:

(i) about half interpret the phrase as "It is 'more plausible' that it does than it will not rain;

(ii) about forty-five percent interpret the phrase as "It is almost but not quite certain to rain."

(iii) about five percent: "It might as well rain as not."

A. ***An arrangement***

These latter girls do not grasp the distinction from "indeterminate" possible; for "probable" is "possible in a stronger degree!

The second category.-- "almost certain, but not quite" -- overestimates the degree of probability (where the third category underestimates it). Only the first category -- "more plausible" -- captures the right shade,-- in the middle.-- So that we are faced with a differential:

(i) "almost certainly, but not quite" (overestimation);

(ii) "more plausible" (correct estimate);

(iii) "as good as not" (underestimation of probability). Cfr WDM 189vv..

Which means that here too an ordering is possible, namely that of a differential.

B. *The statistical induction*

1. The core is, again, summative induction (WDM 124) : one takes a number of samples, preferably all of them, and summarizes.

(i) One can e.g. -- an inspector alike -- pick out some children, -- e.g., a dozen. If the differential, from above, works, then, probably, that differential will already come through somewhat, at that ten: e.g., four out of ten estimate correctly, four out of ten overestimate and two out of ten underestimate. If the same differential works, then, with sample size, the ratio "50 (correct)/ 45 (overestimate)/ 5 (underestimate)" will come through much more strongly.

Since the sampling is haphazard (randomization,-- from the English 'at random'), the deviation from the total percentage (the statistic) can be very large"-- by chance.

(ii) Only if one makes all (instead of just one or some) children answer, does the differential, which is the statistic, come through completely correctly.

2. *The couple "universal" induction and "statistical" induction*.

(i) If, in a summative (total) induction, the result is either "none in a hundred" or "all in a hundred," then this is a universal induction.

(ii) If the summative induction, however, gives as the result (summary) "some out of a hundred", then this is a statistical induction.

Both are "the measure (quantity) of a property" (WDM 84; 179).

WDM 221.

Applicative model.-

J. Cohen, Chance, skill, and luck, 167.

Given: the audience: fifty-six ten-year-old boys and twenty-nine adults.-- The stimulus ("stimulus"): "The judge says the prisoner is probably guilty.

Requested: the correct interpretation.

Behold the statistical induction.

(A) ***The differential.***

Some, in both classes (boys and adults), were sure of the guilt.

Some were almost certain, but not entirely, of the guilt.

Some were uncertain regarding guilt, but considered the prisoner guilty rather than not guilty;

some, however, who were uncertain, raised the possibility that he could be both guilty and not guilty.

(B) ***The statistical induction***.-- Behold the distribution.

	ten-year-old boys:	adults:
sure	7%	78%
almost certainly	52%	14%
rather guilty	27%	45%
both guilty-	14%	13%
	100 %	100%

(c) ***Value judgment*** (evaluation).

(i) It is notable that the "more likely to be guilty than not" (the correct interpretation) makes up only 27% among ten-year-old boys and only 45% among adults.-- All other interpretations (dichotomy: WDM 68) are more or less incorrect interpretations and thus somewhere "subjective" (biased, prejudiced).

(ii) It is notable, also, that with age (judgment maturation), the proportion of "correct judgment" increases and does increase sensitively.

Note.-- The Deconstructionism of Jacques Derrida.-- Derrida (1930/2004), who, since 1962, has written more than twenty books, is differentist (WDM 93). This, with Nietzsche, Heidegger and Deleuze.

One of the themes of this man, who allows himself to be labeled as a 'grammatologist', is 'la deconstruction' (the (meaning) reduction). Hence the term 'deconstructionism'.

Bibl. st.: *A. Burms/ Chr. De Landtsheer, Deconstructionism*, in: *Streven* 1986: 8 (May), 701vv..

"Everything that has meaning or significance contains an essential ambiguity (*op.:* duality), an internal cleavage, which allows for both loss of meaning and construction of meaning." (A.c., 701).

WDM 222.

When we look, beyond any philosophical interpretation, at the statistical inductions - above (50% of girls correct;--27% of boys correct and 45% of adults correct), Derrida gets it right: the meaning (the "message" (or idea, in Platonic terms)) that the phrases have is only partially correctly understood and, thus, constructed; it is, to a sometimes surprisingly high degree, degraded (misinterpreted).

Note -- 1. That an idea is misinterpreted was already clear to Platon, but from a different perspective than that of Derrida, who is not the first to see this (cf. WDM 174/177, where it is explained how J.J. Rousseau, K. Marx, Fr. Nietzsche,-- William of Ockham, Martin Luther, René Descartes have seen their message (meaning, information, 'idea') turned into either something else or the opposite).

2. Those who can experience this daily are teachers, at all levels.-- Rarely are they universally understood correctly. What they say, explain, ends up in both meaning or message breakdown and message construction.

A conclusion.

The so-called "new school, resp. new education" places great emphasis on creativity,--which, practically speaking, amounts to a very high dose of 'giving the meaning', from the autonomous subject that is the child, resp. the pupil(s).

Would it not be better - given the inductions above - to place a stronger emphasis on sense grasping, the correct interpretation of what is, - of what is said? The subject who grasps meaning remains just as autonomous, indeed, becomes more autonomous: it breaks free from the addiction to its own, 'subjective' biases. It is released from its given nature of autism (WDM 103v.), understood here as a lack of contact with objective reality. Not only that: also the dialogue, i.e., talking to each other in such a way that rapport and mutual understanding (WDM 154: encounter) arise, presupposes as a condition of possibility, the conception of meaning rather than its foundation, from one's own, subjective perspective. Then a Derrida will have to complain less about 'deconstruction', meaning breakdown.

Applicable model.

J. Cohen, o.c., 174v., talks about the performance of schizophrenics. We reproduce what he says about this.

WDM 223.

"I have experienced that the proportions of values, ascribed to different expressions by schizophrenic patients, are very different from the normal proportions

(i) in general, the schizophrenic proportions are much smaller;

(ii) sometimes they are fantastically large.

In the second place, the proportions seem to be much less affected by the sentence structure." (O.c.,174).

To explain this, next report.

1. Steller, o.c., 169, talks about the interpretation of "Pieter invites many friends to his party" and "There are blisters on many trees."

The phrase, in which 'many' is caught, refers either to friends or to trees.

It is asked, for example, how much that might be, expressed in numerical terms.

Well, "much" regarding friends is interpreted differently than "much" regarding trees.

2. "For example, the 'ratio' (ratio) of the value for 'some friends' to the value for 'some trees' is -- in the normal group 1:4, while in the schizophrenic group it is 1:2 or less." (o.c., 174).

In other words: if the normal meaning-giver assigns, with respect to friends,'4' as a number ('He/ she has some, i.e. four friends'), then 'some trees' is about four times more (4x4 = 16).-- 'Some friends' are e.g. four for the schizophrenic and 'some trees' are (4x2 =) eight trees. Or even less.

"Similarly, for example, the normal ratio of 'many friends' to 'many trees' is 1:10,-- compared to 1:3 or 1:2 among the schizophrenics." (Ibid.).

Conclusion.

The word signs "some" and "many" are interpreted differently by the normal signifier than by the schizophrenic signifier.

What is also striking is that, even if the order of magnitude ascribed by schizophrenics can be called 'reasonable', they display a peculiar accuracy.-- Thus 'many friends' is interpreted by one patient as 'exactly seventeen'. 'almost no trees in the park, means, for 'another, 'three and a half trees: (Ibid.).

Note.-- The above information sheds light on WDM 219 (Girl 4). The response -- rather a "reaction" -- does not, simply, address the question asked. Instead of indicating 'probably', it engages in an experience ("thunder/ lightning; "fun/ lots of fun"). Creative but subjective.

WDM 224.

II.E.-- g.-- ***The experimentalism.***

It may come as a surprise that American Experimentalism, here - in a Platonic method -, is discussed. And even then as a ‘finishing touch’ to a chapter on ‘methodical analysis’. - And yet: WDM 21/25 (A. Fouillée’s ontology) already set us on that path. Doesn’t Fouillée, as a true Platonist and metaphysician, say that method, in ontology, is analogous to that of the experimental professional sciences?

Situating the lemmatic-analytic method.

Reread carefully WDM 22 : the first part is a hypothesis (‘lemma’). This always presupposes a set of circumstances i.e. a situation, governed by a problem.

1. “Thinking or reflection, for John Dewey (1859/1952), the founder of typical American Experimentalism, has as its essential task ‘to transform a situation.’“ (*G. Deledalle, Histoire de philosophie américaine* (*De la Guerre de Sécession à la Seconde Guerre Mondiale*), (History of American philosophy (From the Civil War to World War II),), Paris, 1954, 33).

This was already the case for a Platonist. A lemma is, essentially, a provisional solution to a problem that arises in a situation.

2. “Days, thereafter, on the proposed deeds, deeds, a set of deeds, which are possible, to resolve the situation. (Ibid.).

Analysis, in Platonism, is first, to analyze the data; then, to clarify the requested (sought, i.e., the solution). That clarification is the analysis, in the second stage. It is governed by the lemma, the possible solution.

Appl. model.

We walk through a landscape until we come to a stream, which interrupts our walk (difficulty).

(1) “Can’t we jump over at once?” (idea). First we examine the stream (observation): it is too wide and the other side is too steep (facts, data).

“Wouldn’t she be scarier, at a different point?” (idea). We look at the stream, left and right, (observation) to make sure (verification of the idea by observation). we do not find, anywhere, a scarier point (falsification of the idea).

(2) “We have to find another solution (swap solution; Alternative). - Our eyes fall on a pile of planks (fact).

WDM 225.

"Would we take them and throw them over the stream, as a bridge?" (Idea). (...). We construct this improvised bridge and cross it (verification, confirmation through the act).

If the realization ('act') had not confirmed the idea, we should have returned to the facts and sought a new idea. (*Deledalle*, o.c., 34;-- after *J. Dewey, How we think* (1933-2)).-- One sees the experimental form of the Platonic method.

Experimentalism.

J. Dewey's system bears several, all correct, names.

(a) It is a pragmatism: it measures the "truth" (understand: reality character) of an idea (whether or not expressed in a judgment or reasoning) or by the result achieved with it.

Which differs from the traditionally-dogmatic conception of "truth" (also understood as "reality character"), which relies on the established authority of "thinkers.

It is "the world in the making," not the surrendered world, that prevails.

(b).1 It is an instrumentalism concerning ideas. In other words: for the time being, 'ideas' are merely lemmata, working hypotheses. Ideas in themselves (as entities existing in themselves), as the original Platon conceived them (which is best called 'ideocentrism'), Dewey, who stands in the Enlightenment ('Rationalism'), does not know. Ideas are experimental tools.

(b).2 It is especially in the spirit of Ch. S. Peirce, an experimentalism .

Joseph Ratner, ed., Intelligence in the Modern World (*John Dewey's Philosophy*), New York, 1939, 58, is formal on that point, as a connoisseur: "'Experimentalism' is one of the two fundamental terms, which Dewey used to designate his philosophy. The other term is 'Instrumentalism.' (...) The latter has, in recent years, come second. (...). This, because Dewey's constructive philosophy is, in its basis, the analysis and value judgment of experiment."

'Experimentalism' is, therefore, 'philosophy of the experiment', i.e. philosophy, but on an experimental, trial-and-error basis.-- Such is the essence of the Chicago school (Dewey's thrust).

No irrationalism.

Too confused with William James's utilism, Dewey's experimentalism was, at times, interpreted as a way of thinking that disparaged the idea, as such, and the rational-intellectual aspect.

WDM 226.

This is wrong: “The basic idea, which these movements (*note:* all that Pragmatism and its corollaries - Instrumentalism, Experimentalism - is) (...) have sought to express, is the idea that action and expediency (*note*: the fact that an idea is ‘useful’, ‘instrumental’, indeed, ‘operational’ (WDM 135),) are only justifiable to the extent that they make life more reasonable and increase its value.

Instrumentalism - against several American directions opposed to it - claims that action should testify to intelligence and should be thoughtful and that, in life, thinking should occupy a central place.” (*J. Dewey, Le développement du pragmatisme américain* (The development of American pragmatism), in: *Revue de Métaphysique et de Morale* 24 (1922): 4 (Oct./ Dec.), 426).

Surely this statement by Dewey himself, who, a.c., 427, says that American thinking merely continues European thinking, but with typically American accents, is clear. The quintessentially American accent, par excellence, is: “Pragmatism is a kind of thinking, which clarifies every thought according to its inferences (*note:* think of progressive reduction, which, from a lemma (abduction, hypothesis), deduces an inference, in order to test it),--whether these inferences are aesthetic, ethical, political, or religious.” (*Ludwig Marcuse, Amerikanisches Philosophieren* (*Pragmatists, Polytheists, Tragiker*) Hamburg, 1959, 129,--where this sentence is taken from Dewey’s work).

The “experimentalist” method.

Like any thought, which achieves a little success, Experimentalism can
(i) be a fashion **(ii)** be an ideology or **(iii)** be a method.

Compare with people like Fouilée (WDM 22: ideal construction) or Bacon (WDM 197: experience and reason), who, both of them, reject pure Empiricism, as incomplete and one-sided. Experimentalism also does this.

One testimony.

J. Hill/A. Kerber, Models, Methods and Analytical Procedures in Education Research, Detroit, 1967, 10/12 (Experimentalism), say that their Experimentalism, regarding education research, is twofold.

(i) It is Intellectualist-Rationalist, in that it holds that facts are not immediately explicable, but must be seen through “basic assumptions” (fundamental presuppositions of a general nature).

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(ii) It is Empiricist in that it believes that (subjective) laws are not immediately knowable, but through facts, which have been established, must be made true.

Which makes the authors say that this goes with Imm. Kant, the great German Aufklärer and, at the same time, Enlightenment critic,: his Criticism does, likewise, see facts and laws together. Also, this goes together -- says always the authors -- with Positivism (WDM 19), which thinks that the method is and deductive and inductive (which amounts to the reductive method; WDM 127;-- 135 (MILL)).

Conclusion.

Self-activity ("Self Activity"), yes, but thoughtful. Behold the healthy Experimentalism. Remember, at once, what *Cl. H. Faust, John Dewey*, in: *Encyclopedia Britannica*, Chicago, 1967, vol. 7: 346f., says.

"Ideas are tools to

(i) to transform the uneasiness attached to the experience of being stuck with a problem

(ii) in the satisfaction of having either solved or clarified that problem". Which, again, indicates how the Experimentalist thinks situatively i.e. from life, praxis -with its (her) problems. Which does not prevent him from clearly affirming the light of ideas, on which every Platonism emphasizes.

In his *How to Make Our Ideas Clear*, in: *The Popular science Monthly*, 12 (1878, Jan., 286/302, n. 402, *Peirce* (WDM 8), the originator of both Pragmatism and (his) Pragmaticism, says: "Consider what consequences; which, possibly, practical effects, we may, in thought, attribute to the object of our conceptions. If we do so, our understanding of these consequences is the totality of our understanding of that object." (*Kl. Oehler, Uebers., Charles S. Peirce, Ueber die Klarneit unserer Gedanken*, (About the clarity of our thoughts,), Frankf.a.M., 1968, 62f.).

It is the idealistic inferences, which Peirce means: an idea, thought through, and thought through as to its effects, if one does something with it (act according to the idea), -- that phase of the idea is the full understanding of it.

Until an idea is thought through to its consequences, it is not ready.

This is also the position of the Experimentalist: What WDM 174/177 (harm. of opposites.) and 221v. (deconstruction) prove.

WDM 228.

III.A.-- *Logic (theory of thought).*

As mentioned, WDM 4, logic, sensu stricto, is the theory concerning the ideas (notions, concepts), the judgments (propositions, "sentences") and the reasonings (particularly the concluding sentence or syllogism).

Preface.

1. What comes before -- ontology (particularly harmology or doctrine of order(s)) -- boils down to what is called, in the formalized, "mathematized," logic (= logistics), "the logistics of relations" (harmology) and "the logistics of modalities," (see ontology,-- WDM 38/65 (actual,-- possible, necessary and some submodalities).

2. To show both how traditional and how logically sound our way of working is, the following parts of a foreword.

(i).-- *The ideas 'all' and 'whole', in Platonism*.

Bibl. sample : *Augusto Guazzi, Le concept philosophique de 'monde'*, in: dialectica 57/ 58, Neuchâtel (CH), 1961, 89/107.

a. Steller starts from the question, "Is 'world ('cosmos') - with Platon - an idea?". Because **(a)** Platon did not leave any text, in which he explicitly says so, **(b)** but it can be rightly asserted (reason: his cosmology or universe theory is, only, a reissue of his dialectic (WDM 24; the name of the core piece of Platon's thought)).

b. Steller - to demonstrate this - starts from Platon's harmology.

The ideas 'all' and 'whole' are equivalent ideas. Reason: both 'all' and 'whole' - think e.g. "all birds" and "whole the bird" (the whole bird) (WDM 86 (collection) and 87 (system, system); 217 (sign)) - mean "all parts", (in the Antique sense of 'all elements' and 'all parts, components, subsystems)) (Theaitetos (= Theaetetus) 205a).

Henological (= unitary doctrine) ***expressed:***

'The one, (i.e. that which is one) - viz. all the elements and/or parts - is not conceivable without the parts (elements, subsystems) and, conversely, 'the parts', (elements, subsystems) are inconceivable without the one (the collection, the system, which makes a multiplicity one).

Thus *Platon* himself, in his *Parmenides*, passim (i.e. scattered throughout).-- Ontologically it is then called as follows: 'all being' 'all being' (reality) is governed (WDM 7) by one principle (archè): no given ('being') is conceivable without being situable either as an element, among all being, or as a constituent within all being.

WDM 229

Thus *Platon* in his *Filebos* 15d/17a.

Thus Platon, in a set theory and a system theory ‘avant la lettre’, can both think and articulate the idea ‘world’ (‘universe’).

c. The actual Platonic theory of ideas begins where Platon sees the idea - not only as the collection and the system in the visible and tangible data (‘ta fainomena’, the ‘phenomena’ or sensory data), but also - situated in a ‘cosmos noëtos’, mundus intelligibilis, ‘le monde intelligible’, the world of knowledge and thought, above / outside the visible and tangible world, according to which this visible and tangible world is ordered. And from which it springs.

Cf. WDM 51 (at once in and above the visible and tangible women); 108 (a caricature of God’s ideas); 194 (Gogol’s Platonic-Christian laughing weeping). Cfr Platon’s Sophistès (= The Sophist) 248c / 249a.

d. Still more: *Platon* thinks organicistically (WDM 96): this visible and tangible world (of “phenomena”) and the invisible, intangible, but by knowing and thinking attainable “world of knowledge and thought content” (kosmos noëtos),-- both are conceived according to the model of an “organism” (living being; WDM 142), which is both animated (WDM 14) and, above all, immaterial-spiritual (“spirit”, i.e. reason and reason). Cf. his *Sophistès* 248e/ 249a.

Therein Platon situates all “true” (real) ideas,--which, then, in turn, are “zoa noèta: animalia intelligibilia, knowing and thinking living beings. Cfr Timaios (= Timaeus) 29e/31c.

So that also in the ‘transcendental world’ the ideas ‘all ideas’ and ‘the whole (system) of ideas’ remain decisive. Even more: they are both example (archètype) and origin (archè) of the visible and tangible collections and systems which we - situated in the phenomena themselves - experience.

That only is the -- so often misunderstood -- Platonic system of ideas,-- better: ideocentrism, i.e. a theory of ideas without a personal supreme being (God).

WDM 230.

(ii).-- *The comparative method, core of logic.*

Let us, once again, let the great tradition have its say.

F.J. Thonnard, A.A., Précis de philosophie (*en harmonie avec les sciences*), (Précis of philosophy (in harmony with the sciences),), Paris, 1950, 653s., underlines the leading role of the comparative method

(a) Comparing, as an act of the mind (intellect/ reason) - so says Thonnard - is an act of knowing and thinking, in which one considers at least two data (events) at the same time,--this, in order to grasp both the similarity and the difference of them (which amounts to grasping the relations).

"La comparaison est la connaissance explicite des rapports" (The comparison is the explicitly explicitly known, knowledge of the relations) (o.c., 653).

(b).1.

We saw, WDM 106 (kategoremen, predicabilia, -- especially gender (universal collection.) and species (subset)), WDM 143 (distributive and collective idea), that an idea (concept) is dual.

Sometimes it is the collection of a multitude of elements ("all people"), other times the system of a multitude of parts (subsystems) ("The whole person").

It is so clear that the grasping of an idea, either as a set of "things" (actions) or as a system that makes a number of things into a whole, is possible only by means of (unconscious or conscious) comparison.

(b).2. Comparing - says Thonnard, ibid. - actively intervenes in judging. judging (proposition, 'sentence') is indeed, one application of the model idea (WDM 6). The sentence "Ornella Muti is a beautiful woman" - it is immediately clear - is the result of a comparison (unconscious or conscious), through which one recognizes that the proverb (the model) can be said out of the subject (the original) (WDM 112).

(b).3. *The reasoning* (capstone, syllogism***)***

'Inférence', (derivation) - is the comparing of at least two prepositional phrases (judgments, expressing ideas) such that one derives (concludes, concludes) a third phrase, the after phrase.

"The closing sentence - as reasoning - is an act, whereby the mind (mind/ reason) - thanks to comparison of two prepositional sentences - derives a third sentence." (Thonnard, o.c., 58).

Appl. model.

"Every spiritual being is immortal. Well, the human soul is spiritual. So it is immortal". (Ibid.).

WDM 231.

One compares **(1)** 'spiritual being' of which human is one type (distributive structure), **(2)** with 'immortal'. One sees that both are related (if spiritual, then immortal; collective structure).

Or, as Thonnard, o.c., 59, says: "The syllogism (....) is that reasoning by which the mind agrees that, when it compares two states of affairs ('concepts objectifs') with a third state of affairs, they either go together or exclude each other.

The syllogism which affirms the conjunction is affirmative; the syllogism which affirms the mutual exclusion is negative -- And: "The principle which governs the operation of mind (WDM 7), in that type of reasoning, is (...): 'Two acts, which are equal to the same third act, are also equal among themselves'" ; (o.c.,60).

(iii).-- *The logistic 'connectiva'* (connections).

J. Royce, Principles of Logic, New York, 1961, explains, in his peculiar way, the judgment connections, which logicians introduce, among other things, in their judgment logic.-- We summarize.

(a).-- *Incongruity* (contradiction)

Opposite every mode of action - e.g. singing or chanting - one can put forward a mode of action, which is contradictorily opposite to it,-- e.g. not singing. Cfr WDM 157.-- Made radically abstract : opposite every x one puts an x (negate) (or also -x), the negate.

(b).-- *Logistic product*

Let us suppose a pair of 'singing and dancing'. -- The phrase "singing and dancing" is the logical product of the actions 'singing' and 'dancing;-- Made abstract: from any pair x and y one can construct a 'product' 'xy'.

(c).-- *Logistic sum*

When we say "either sing or dance," the phrase is the logical sum of 'sing' and of 'dance.' -- Abstract: from x and y one constructs the formula 'x + y'.

(d).-- *Embrace (implication)*

The colloquial term 'involves' ('implies') occurs in the sentence "Singing and dancing involves - include - singing". Abstract xy x→ (Or still : xy). x; WDM 131 (pasigraphic notation); -- 3 (if ... then ...).

(e).-- *Denial (negate)*

Instead of singing and/ or dancing, one can also do nothing.-- Abstract: is x, y, xy or x+y equatable to 1, then its absence is equatable to 0 (unrhymeable).

WDM 232.

"(...) Modes of action are a collection of actions ('entities'), governed, in any case, by the same logical laws as those by which classes and judgments are governed. The so-called 'algebra of logic' can be applied to them". (Royce, o.c.,74). -- Compared to WDM 211 (five value choices), an analogy appears. Something combinatorial is involved.

Conclusion.

We are only interested in this

(i) the connections as partial identities (analogies) and

(ii) especially the implication: which is parallel to the derivation mentioned in WDM 230. To infer one after sentence from two prepositions is to see and agree with the implication of the after sentence by both prepositions.

Appl. model.

Here follows a reasoning, which one ascribes among others to Epikoeros (= Epicurus) of Samos (-341/-270), refined Hedonist (WDM 48), Hylic-Dualist (= he was 'Materialist; but he assumed, besides the coarse substance, also the fine or rarefied substance (WDM 12: primordial substance, which is 'tasty')). He was a polytheist (he assumed the existence of a multitude of extra-natural (WDM 17) beings - deities), but does not seem to have assumed a Supreme Being, in the nature of the Biblical God e.g..

a. *Circumstantial wording.*

It is an "argumentum ad hominem" a refutation, which starts from the lemmata of the opponent. In short: "If you assert this, then it follows therefrom (=content, implication) what you refute". One confronts the opponent with the refuting consequences of his own position.

WDM 34 (43; 55) already taught us the indirect proof, of which this mode of reasoning is one model.

preposition 1.-- If God exists, then He is good and all-powerful.

But: either, if God can prevent evil, but will not prevent it, then He is not good. or, if He will prevent evil, but cannot, then He is not omnipotent.

preposition 2 -- Evil can only exist either if god can prevent it, but will not or if he wants to prevent it, but cannot.

preface 3.-- Well, evil exists.

nazin.-- So God does not exist.

WDM 233.

Note -- The structure -- viewed logically i.e. from the point of view of encompassing (WDM 8) -- is: from the prepositions 1, 2 and 3 one can deduce the after sentence. Or: the three prepositional phrases ARE the postpositional phrase. Or still: if the three prepositional phrases, then the one postpositional phrase.

b. *Symbol shortening.*

1. We rewrite the sentences e.g. as follows.

'God exists' = p;
'God is good' = q1;
'God is all-powerful' = q2,
'God can prevent evil' = r1;
'God wants to prevent evil' = r2'
'Evil exists' = s.

2. We rewrite the logical connectives (connectors): negation (= p is negated by p (negate)); contradiction (= w,-- in Latin 'aut', i.e. either or); juxtapositive conjunction (= 'and' becomes ^); the encompassing (=).) . (WDM 52).

The reasoning, viewed syntactically (WDM 91), looks, in the language of logistics, as follows :

VZ 1: p). q1 ^ q2 ^ r1 ^ r2 (neg)). q1 (neg) w r2 A r1 (neg)). q2 (neg)
VZ 2: r1 ^ r2 (negate) w r2 ^ r1 (negate)). s
VZ 3: s
NZ: p (negate).
(The whole: VZ 1 ^ VZ 2 ^ VZ 3). NZ)

Note -- epistemological vetting.

1. How can the God-believer logically respond to this? The artery of reasoning, epistemologically speaking, lies in the word "only" in preposition 2.

That right would first have to be proven, of course. The atheist, speaking, circumvents the question of whether evil, which is a fact, does not go hand in hand with a God who is both good and all-powerful.

2. We take the atheist at his word. "Evil exists,--even if God does not exist. - All that exists has a sufficient reason (WDM 8)--as admitted, implicitly, in preposition 2.

Since God, in the atheistic hypothesis, does not exist, He cannot account for the origin of evil. Thus, for evil to exist, in a Godless universe, an explanation (sufficient reason) other than a God falling short is necessary. The origin of evil lies in the universe itself,--not in God (who does not even exist).

Well, that is precisely the thesis that all God-believers have held.

WDM 234.

3. (i) Unconsciously, the atheist assumes that there can only be a kind of 'authoritarian' God, who does not tolerate independence ('autonomy') in what He created. Such a 'Supreme Being' would, then, have to intervene constantly, like a disciplinarian, in the structure of creation itself.

(ii) The God-believer, however, realizes the autonomy of creation.

(a) Physically, this implies that the non-free creation, in its way, is independent : think of the laws that can be established by science (e.g. a stone falls,--even when, by chance, someone walks under it);

(b) ethically, this implies that the free creature (WDM 40), even when it wants evil, can act knowingly and willingly against the God-willed order. God faces a dilemma: either He founds free, autonomous creatures, and then He cannot or should not intervene constantly; or He founds an unfree, "subject" creation, but then He prevents any self-development.

4. -- God -- according to e.g. the Bible -- does, of course, intervene:

(a) by the immanent, intervention built into the created structures themselves ("the judgment of God" as it is called);

(b) by transcendent interventions designed from within Himself (think of the Bible's teaching on the Last Judgment e.g.). Think of vengeful sin e.g..

5. -- Pagan theologies also saw the problem of evil. We touched on this, briefly. WDM 169/178 (The Harmony of Opposites).-- A number, powerful extra-natural beings were, invariably, identified as the first founders of evil.

Not the so-called Supreme Being, as primordial monotheism (Lang and Schmidt) conceives it: that Supreme Being, in pagan theologies, stung sharply or against the secondary deities.

Note.-- The branch of theology, which deals with the relation 'God/evil', is usually called 'theodicy', a term, which the Cartesian Leibniz (1646/1716) introduced.

The main problem here is not how to reconcile God's existence with the fact of evil, but how, within the autonomy of creation, to activate the means, built into that creation itself, so that evil, -- physical and ethical, is combated or diminished, by the creatures -- we ourselves. E.g., by restoring the evil, which we founded.

WDM 235.

Note **--** The terms, which Royce (WDM 231) uses, also sound, well, different.-- For example, man speaks of "functors" (conjunctions, modifiers), instead of "connectives" or "logical connections.

a. instead of 'logical product' one also says 'conjugate', when two 'values', p and q e.g., are connected by the 'conjunctor' ^ ; which gives 'p ^ q1' (= p and q simultaneously). In Lukasiewicz's language: 'Apq'.

b. Instead of 'logical sum' one speaks of 'disjugate', when e.g. p and q are connected by v, - what is called a 'disjunctor'. One then writes 'p v q' (= p and/or q; at least one of the two values), -- Which corresponds to the Latin 'vel' (or). In Lukasiewicz's language system: 'Dpq'.

c. The 'implicator'). or gives→, as a result, a 'consequence' ('inference', inference, implication), viz. 'p). q' or 'p q→'(which may be called an implicate).-- In Lukasiewicz's system: 'Cpq' ('If, then').

The other connections are:

(a) the 'bi-implicator', which establishes 'equivalence' (equivalence, mutual implication).-- Thus one reads 'p q⇔' (or still: 'p q≡' (or also: 'p).(q') "if p, then q and vice versa" or "if and only if p, then q".

(b) The negates read and look as follows.

1.-- Contradiction (incongruity) is contrasted with the ordinary disjunctive 'vel' or 'and/or', which is called 'inclusionary' ('inclusive', 'alternative', 'divisive') disjunctive. The contradiction is then called 'exclusive' ('exclusive', 'strict' or 'dilemmatic') disjunct. One writes them as 'p w q' (in Latin 'out' : 'either p or q'; i.e. only one of the two at a time).

2.-- Negation is put on paper by the 'negator' ('negator') -p or p (negate) (i.e. not p). -- In Lukesiewicz's system: 'Np'.

3.-- Incompatibility is sometimes expressed by 'I' (a straight line). For example, 'p I q' means "p incompatible with q".

Note.-- In addition to the connections (especially between judgments), above, there are the "quant(ifikat)ears" or "range markers" (WDM 105; 124).

They are, in our language system, "distributive signs": Ax ("For all x, this is true"), Ex ("For just one x, this is true"), Sx ("For some x, this is true").

Note.-- Other basic concepts we mentioned WDM 132, because Peano's pasigraphy is a start of logistics.

WDM 236

Note -- The stages of logistics.

After, very briefly, citing and, briefly, explaining the connecting signs, the quantifiers and some collection-learning symbols, a word - for those who are totally unfamiliar with them - on the development of so-called symbolic or mathematical logic.

(1) The preliminary phase can, among other things, begin with Francois Viète (WDM 124) and his typeset : instead of the previous 'numerosa' (logistica), the numerical calculation, he introduced, as the first and conscious Platonist, who works with ideas (i.e. collections (and and/or systems) (WDM 226)), the 'logistica speciosa' (the ideal or letter calculation) which, among other things, allowed the algebra to get off the ground.

(2) The initial phase is best called "logical algebra" (WDM 232), which deployment, in 1847, with G. Boole (1815/1864) and A. de Morgan (1806/1878),--while people like Benj. Peirce (1809/1880) and E. Schroeder (1841/1902) develop class and judgment algebra, in an analogous sense.

(3) The logistics proper gets off the ground, at the end of the XIXth century, as *G. Frege* (1848/1925) - with his *Begriffschrift* (1879) - and *G. Peano* (1858/1932), with his *Formulario mathematico* (1995+) - see WDM 133 -, re-founded the previous 'logical algebra'. Their work is crowned by the monumental work of *A. Whitehead* (1861/1947) and *B. Russell* (1872/1971), *Principia Mathematica (*1910/1913), whose title is often misunderstood: their intention was to reduce mathematics to a logic (admittedly mathematical-looking), whose name would be more appropriately 'formalized logic',.

Also *D. Hilbert* (1862/1943) - known among other things for his *Grundlagen der Mathemetik*, (Fundamentals of Mathemetics), I (1932) and II (1939) - with his 'theory of proof' works in an analogous way.

***Note.--* (1)** 'Logistics' has - semasiologically (= meaning learning) - also a military meaning. *Vice Admiral G.C. Dyer, Naval Logistics*, Annapolis, 1960, says that 'logistics' is "the total process, by which the resources of a nation -- both human and material -- are mobilized and directed to the performance of military tasks."

This means that:

(1) the overall (also called "political") strategy ("grand strategy"), which puts the big goals first, and the "operational" strategy (which is situated on the theater of war itself) and

(2) the tactics, i.e. the optimization (working out to the maximum) - also on the battlefield itself, being helped by the (military) logistics, which provides combat resources, personnel and material.

WDM 237.

(2) ‘***Metalogica’*.**

This term dates back to the full Middle Ages. *John of Salisbury* (1110/ 1180), the “Humanist” of the Middle Ages, known for his theory of the “thesis/hypothesis” relationship (WDM 50; 62), wrote a work “*metalogicus*,” i.e., a “logic about logic” (a kind of reflection on logical thought).

Well, in an analogous, but strongly reframed sense, the more recent metalogy is a meta-language (i.e., a language over language) of logistics. It was elaborated from 1915, by L. Löwenstein, and further developed by Löwenstein, Skolem (1920) by Herbrand (1928), by Tarski (1930), by Gödel (1930+), Hankin (1947) by Cohen (1963), ... developed.

Conclusion.

The logical connectives, with related ones, gave us a brief sense of what the current logistics may be.

1. For a pure philosophical logic, it is **(a)** a clarification, **(b)** but above all an elaboration. Without the so-called “naive” or “intuitive” (philosophical) logic, -- no elaborate logic.

2. Philosophically of life (Romantic, Existential, Dialectical, Pragmat(icist)isch e.g.) logistics is rather an ‘alienation i.e. a game, good for ‘calculating and mathematizing’ minds.

There are, in fact, quite a few specialists in logistics, who testify to a staggering lack of insight into the not merely theoretical but above all existential application in practical and daily life, with its own logic, i.e. applied logic. As, by the way, do many classical philosophical specialists of logic, likewise, of a staggering lack concerning the practical application in relation to life problems.

As a result, our course - in contrast to the mass of others - is teeming with “applicative models” from all sorts of domains of life and the professional sciences that have some connection with that life. Nevertheless, we are convinced that even the minimal quotations and comparisons concerning logistics are extremely useful, even for the philosophical type.

WDM 238.

Indeed: a number of people imagine that between the traditional, ‘Metaphysical’ or ontological logic and its formalized form, logistics, there is a contradiction. One then thinks one should, e.g., belittle the other, ridicule it, - fight it as an aberration or whatever.

A. It is true that e.g. the Neopositivists (WDM 19: from Positivism developed a re-established form, i.e. Logical or Talig (= Language) or Neo-Positivism) have made heavy use of formalized logic, because they assumed that only the mathematical-naturalistic language made valid ways of speaking, especially in the professional sciences, possible. Cfr. WDM 118, again the Neo-Rhetorical critique of this was mentioned.

B. But “in fact, the founders of (formalized logic) are not only not Positivists, but, on the contrary, Platonists (G. Frege (1848/1925), Whitehead (1861/ 1947), *B. Russel* (1872/ 1970) -- at least when, with *Whitehead*, he wrote the *Principia Mathematica*; he evolved), J. Lukasiewicz (1878/1956),-- Fränkel (.../...), H. Scholz (1884/1956; founder, as a theologian, of a Center for logical studies), et al.) and counts followers in all schools.” (*I.M. Bochenski, History of Contemporary European Philosophy*, Bruges, 1952, 270).-- Which proves the enormous influence of Platonism, to this day.

Note -- the classical classification of logistics.

The logistics make up a whole (system). This too is, from our point of view, of great importance. For: suppose we do not deal with one of its major features (in the non-calculating way), then our whole is missing a perhaps integral part.

Most manuals are categorized into:

(a) Judgmental or propositional logistics, which we will now address,

(b) relation or relationship logistics (which we discussed at length in harmology) and

(c) class or ‘group’ logistics (which agrees with the theory of concepts, which will come later).

What we said concerning the theory of signs (semiotics, semiology) comes up in metalogistics.-- So that our course brings up, more or less, in a non-formalized way, all the basic ideas of logistics.

WDM 239.

Note-- A close ordering of the sciences.

One can, of course, classify the sciences in more than one way (think of natural sciences and humanities, for example). But with one of these classifications we shall, for a moment, dwell.

(1) ***Logic*** -- noted: especially logics is intended by the author -- is to be regarded as the doctrine of the description of all possible structures (WDM 86, 88).

'Collection', 'representation' and other standard concepts (*note:* think of the idea 'system', which the author, in his work, addresses, by the way) are, in any description, presupposed and belong, therefore, to logic." (*D. Nauta, Logic and Model*, Bussum, 1970, 46).

(2) ***Mathematics***.

A. "According to the recent modern views, one can

a. characterize mathematics as the science, which investigates structures (or; rather, systems);

b. logic (*op.:* logistic) as the science, which investigates the 'formal' (*op.:* expressed in its formalized form) description of all possible structures;

c. metamathematics (*note:* language over mathematical language) as the science, which investigates the relations between the two.

The structures, which satisfy a given 'formal' description, are called 'models' of that description." (D. Nauta, 1.c., 40).

B. The more abstract, i.e., universal, mathematics, however, becomes, in its modern, structural approach, (...) the closer it comes to logic (*note:* logistics)." (o.c., 46).

(3) ***Empirical-Experimental Subject Science.***

"Mathematics should, therefore, be seen as a bridging science between

a. The logic that has become universal - that says "nothing" about "everything" anymore - and

b. the professional sciences". (Ibid.).

Conclusion.-- Haven't we said it? The ontology is the core, the essence core -- even of the logistic --! For it says "nothing" (subsuming "exactly") about "everything" (which is the transcendental concept of being; WDM 26).

In other words, logistics is an ontology in disguise.

Which is shown, e.g., by *G. Elisabeth M. Anscombe, From Parmenides to Wittgenstein*, Oxford, 1981 (Parmenides as the foundational text, on which all Western philosophy is but a set of footnotes).

(iv).-- ***The idea of "encompassing"*** (implication).

We have briefly, invoked the logi(sti)sche connectives (connection signs), expression of partial identities (analogies, relations; WDM 82; 163).

(1) ***The entailment*** (implication) can interpret them all.

(a) Contradiction : "If x, then not (the negate of) x". (application: "If white, then not non-white");

(b) logi(sti)c product: 'If xy, then and x and y' (application: 'If white-and-black, then white-and-black');

(c) logi(sti)sum: "If x + y, then either x or y or both (but this linkage not necessary, but accidental) (application : "If either white or black, - either all or together, then either white or black or both");

(d) ordinary negation "If 0, then not 1 (where 1 stands for x, y,-- xy or x+y) (application: "If nothing, then (certainly) neither white nor black nor white-and-black nor either white or black or both (by chance)."

Conclusion.-- In all connectives there is a partial identity (relation form), which is such that one can translate it by an implication form. The implication is the basic connective. Cfr WDM 231.

Note.-- This is also the case with e.g. the set of axiological connectives, which we, WDM 211, saw.

(a) Exchange solution: if one is good, then not the other (good or value);

(b) preference: if all two, then prefer one to the other;

(c) Alternation: if all two, then now one then the other;

(d) Merging: if two, then both;

(e) refusal : if e.g. two, then no one.

Note: Reread**1.**, now, WDM 6, concepts, judgments and reasonings are the threefold - one object of the ontological Logic, which is concerned, essentially, with partial identities. The idea 'model' e.g. is one application of it (WDM 6).

2. Only now does it become clear why comparison is so central: it is the method of uncovering partial identities (relations). It exposes the root of the implications, object of the entire traditional logic.

Reread, now, WDM 230 (main of comparative meth.), and thou wilt see that ideas are universal and collective (according to distributive or collective structure) judgments, reasonings, implication types

WDM 241.

Note: One can also view the perspective, inherent to the encompassing, in reverse.

1. Instead of saying "If xy, then both x and y simultaneously (and necessarily)", one can also say "x and y simultaneously are proper to, inherent in xy" (whether applicable to substantial modes of union or merely accidental).

2. Let us return to WDM 226 (the Platonic foundation and of harmology and logic):

(i) 'all' includes 'some' (= private or 'p'), of which 'just one' (= singular or 's') is the minimum; -- which means that the idea 'some' (p) or 'just one' (s) is inherent (proper) in the idea 'all', -- shorter: "if u (universal), then p (s)"; or "p (s) is inherent in u".

(ii) 'whole' includes 'some parts' (p) or 'at least one part' (s); the idea 'some parts' or 'just one part' is inherent in 'whole'.

III.A.-- (I).-- ***comprehension theory***.

"Formal logic is the science of the rules which the human mind must apply if it is to avoid contradiction (WDM 30; 157; 205) and remain consistent with itself (WDM 42: 'folgerichtig') in its thinking operations. Well, the three basic operations, proper to thinking, are comprehension, judgment, reasoning". (*Ch. Lahr, Logique*, 491).

a.-- ***The idea (concept) and the term.***

(1) The idea (concept) also called 'notion' or 'concept' -- is describable as "the simple representation, in our mind (intellect/ reason), of a 'given, token, being, something' (WDM 20: be(de); 28: something)."

In other words: logic, as far as the theory of ideas, is a way of working ontologically, i.e. of examining the "being" insofar as they can be grasped, understood, ideally.

(2) The term -- from the Latin 'terminus' -- is the idea transformed into a word or group of words.-- Do not, however, confuse it with the speech term 'word': a multitude of words is, as the case may be, needed to express precisely one idea. These interrelated (either distributively ("all people") or collectively ("all mankind") words, in the grammatical sense, constitute the partial ideas or partial concepts of one total idea (total concept).

WDM 242.

b.-- ***The content of understanding ('comprehensio') and the scope of understanding ('extensio').***

As taught in the theory of collection (WDM 129:' well-defined elements, summed up to a whole'; 143), again the aspect of 'magnitude' predominates), the idea can be considered twofold.

(i) ***The idealistic content***

(in Middle Latin 'comprehensio') is the totality of features (WDM 126) or 'properties', - better, in Platonic language, 'partial ideas' -, which together (= collective structure) constitute precisely one idea.

The classic example : in order to literally compose the total idea 'man' (which is one example of what Platon called 'stoicheiosis', elementatio, raising a whole (collection, system) out of its elements), one has e.g. the sub-ideas 'being' (= reality),-- specified (WDM 26) by e.g. 'living being', 'embodied' and 'gifted with spirit (reason, reason -- as well as mind'.

(ii) ***The ideal extent*** (Middle English : 'extensio', 'extensiveness; spread) is the collection, resp. the system (system), consisting (again, 'composed' ('stoicheiosis', in Platonic) of AL the elements, resp. parts (hypo- or sub-systems) to which the ideal content is applicable.

Example: all the singularly-concrete human beings, summed up (G. Cantor's definition), make up the extent of the idea 'human'; - all the parts of a human being, summed up (G. Cantor, again), make up, collectively (collectively), the idea (seen in its content) 'human'.-Replace the Platonic term 'stoicheiosis' (literally : file division') with the Cantorian term 'summary' and one disposes of the transition from the multiplicity (extent) to the unity (content) of an idea.

Cfr WDM 86v. (collection; system);-- especially 143/147 (distributive and collective idea), where the very same ideas, were explained more harmologically.

Typology of the concept scope.

P. Ch. Lahr, Logique, 492s., distinguishes following types of ideal size.

(a) 1. ***the singular (individual, fused) idea***.

Appl. model.-- To the proper name Karolina von Günderode (11.02.1780/ 27.07. 1806),-- in the walk: Line von Günderode, answers, historically, a Romantic poet born at Karlsruhe, -- famous for her three passionate infatuations (first in love with Fr. Karl von Savigny (1779/1861; Hermeneutic of law; founder of the so-called Historical School (not the lifeless idea of 'law' (inherent in the Aufklärung), but the life, the actual life, of peoples, with their institutions and traditions, governs the actual law)),

WDM 243

-- then on *Clemens Brentano* (1778/1842; the most brilliant and imaginative Romantic lyricist; with Achim von Arnim author of *Des Knaben Wunderhorn* (nearly six hundred German folk songs)),

-- finally on *G. Friedrich Creuzer* (1771/1858; specialist of Greco-Roman religions; known for his *Symbolik und Mythologie der alten Völker, besonders der Griechen*, (Symbolism and mythology of ancient peoples, especially the Greeks,), Leipzig, 1810/1812)).

Convinced that passionate loves are the harbinger of her suicide, supported by an escape from the harsh reality of this earth, she takes her own life... with one dagger stab under her left breast, under a bunch of willows, at the edge of the 'holy' stream, the Rhine.

Behold what, in actual life, corresponds to the proper name 'Karoline von Günderode'. Without these (cultural) historical data, one knows virtually nothing about that proper name, understood as a singular idea.

(a)2. *The private and the universal idea.*

We have explained this, to saturation: some (= p) people are Romantics, some others are not (p); all people, insofar as truly human, possess spirit (u = universee1). - Cfr WDM 124 (range square); 235 (quantors).

(b) *the transcendental idea*.

This idea -- says Lahr -- "applies to" all actual and all possible beings.

Main type: the idea of being. See above WDM 27vv. (transcendentalism),--summarized WDM 29.

As we, WDM 242, saw, this idea is necessary to characterize (define) whatever (the scope is trancendental or Comprehensive).

This is because the content is, merely, the idea "reality," however it may be, even the most fantastic, even the most absurd (but as "absurd).

Which our ontology, overwhelmingly, shows. This idea expresses the sense of all that, too, represents reality. It is the pedestal of all healthy thinking and knowing,--and feeling.

WDM 244.

Note.-- The opposition pair of ‘connotation’ (intensity)/ denotation (extension);

a. The content of understanding (comprehension) is also indicated by the terms ‘connotation’ or ‘intensity’ (do not confuse with ‘intention’); the scope of understanding by the terms ‘denotation’ and ‘extension’. Thus *J.St. Mill*, *Logic* 1: 2.5 says : “The word ‘white’ denotes all white things,-- as snow, paper, the foam of the sea, etc., and implies (WDM 241) -- or, as it was termed by the schoolmen -- connotes the attribute ‘whiteness’“. (The word ‘white’ includes all white data,--as e.g. snow, paper, the foam of the sea, etc., and implies -- or, as it was termed by the Scholasticians -- connotes the attribute ‘whiteness’).

b. *G.W. Leibniz* (1646/1716), *Meditationes de cognitione, veritate et ideis* (Reflections on knowledge, truth, and concepts) (1648) defines an idea

(i) as clear, insofar as, being present in our mind, it makes all the objects intended by it (the elements, which it collects) known (= clear to extent) clearly and distinctly,

(ii) as clear, insofar as it allows for a clear summative induction (WDM 125) or complete enumeration of all sub-ideas (= clear by content).

Bibl. sample : *G. Nuchelmans:*, *Survey of Analytic Philosophy*, Utr./ Antw., 1559, 21v. (o.c.,18/23: Analysis of concepts).

Note: The analysis of concepts, judgments (o.c.,23/30) and reasoning (o.c., 30/37) plays, in the so-called Language Analytic or, in short, Analytic philosophy, a leading role.

The inverse relationship between content and size.

“The ideal content of a concept is, necessarily, inversely proportional to its ideal size.” (Lahr, o.c., 493).

Appl. model.-- The tree(diagram) of Porphyrias.

Porfurios (= Porphyrius) of Turos (233/305) - disciple of Plotinos of Lukopolis (203/239; main figure of Late Antique Neo-Platonism), known for his Eisagogè (= Isagoge or Introduction), on the Categories (WDM 83/85) of Aristotle - gives us a little example of the inverse proportionality ‘content/ size’. He does this diagrammatically (a diagram is a structural model (WDM 112; 88)). Here in the form of a tree diagram, with branches.

The ‘root’ (starting point is called ‘ousia’, substantia (often translated as ‘substance’), i.e. ‘being’).

WDM 245,

After the content of a concept is situated in reality - always that ontological pedestal-, one can, as Aristotle (WDM 26) insists, characterize (‘typify’, ‘describe’, ‘describe’). Porfurios does this, as a design of a broadly conceived metaphysical (= ontological) scheme, as follows.

A something (being) can be either spiritual (incorporeal,-- ‘mind’) or material (material, ‘hylic’, -- ‘substance’ (matter)).

A material being (being) can be either inorganic (‘mineral’, -- physical - chemical) or organic (‘living’).

An organic being can be either plant (“plant”) or animal (“animal”).

An animal creature can be either mindless (not gifted with reason and intelligence) or spiritually gifted.-- in which case one has to deal with a human being.

If one wishes to “characterize” (specify) singular people, there is only one method,--that which we applied to the Romantica Karolina von Günderode (WDM 242v.).

Note that the further the summative induction (enumeration of characteristics) goes, the smaller the number of beings to which the idea, thus defined, is applicable.

The universals (categoremen).

Harmologically these were already described, WDM 106.2. Conceptually, they are situated within the tree of Porphyrias.

Appl. model.

In the hierarchy (order of precedence) of ideas, the broadest scope (the poorest content) is “genus,” and the subsequent less broad scope and richer content is “species.”-Compare the more universal collection with the more private collection.

Class logistics.

The sparse information, which our theory of understanding represents, in the eyes of logicians, is widely (and symbolically-accurately) distributed in what is called “logic of classes.

What is, now, a class?

A single word on that.

Bibl. sample : *M. Cl. Bartholy/ P. Ascot, Philosophie/ Epistémologie (Précis de vocabulaire*), Paris, 1975, 88/105 (*Sciences formelles*).

O.c., 88, *W.V.O. Quine, Logique élémentaire*, Paris, 1972, 188s., is cited, where three applicative models are given.

WDM 246.

"When we say that men are numerous, we do not mean, by this, that every man is numerous or that some men are.-- What, as characteristic 'numerous' has, is a well-defined abstract fact, namely, the class of men.

When we say that man is a species of animal, we mean, by that, that abstract entity, the class of people, is a species of animal.

When we assert that the Apostles are in the number of twelve (a "dozen"), we are saying, with that, that - again - an abstract entity, the class of Apostles, represents a dozen; for no Apostle, taken individually, is a dozen. on the contrary : each individual Apostle belongs to this abstract entity, the class of Apostles. Likewise, each individual human being belongs to the class of human beings.

The symbolic expression, for that, is 'x € y' ("x belongs to y").-

Thus, e.g., "Peter € (belongs to) the class of Apostles," and, also, "Peter € belongs to the class of men."

The book adds, "It is called 'set theory' that mathematics, which is concerned with 'belonging to' or 'classes' ". Cfr WDM 131 (Peano).

To which it should be noted that e.g. *D. Nauta, Logic and Model, Bussum*, 1970, 62, agrees with this, to note o.c.,65, that - sometimes - for theoretically critical reasons, one makes a distinction between 'collection' and 'class'. Which we so take, of course.

c.-- *The analysis of an idea: its classification and its determination (definition).*

As *Lahr, Logique*, 499, rightly says: one sees the analogy between the classification and the determination of being, logically speaking:

(a). the classification, always logically speaking, is the summative induction (enumeration) of the scope of understanding (the number, expressible (eventual) in a number, elements, to which the idea applies);

(b). the definition is the summative induction (enumeration) of the partial ideas (features, peculiar to the given to be defined), which, together, constitute a total idea (= the concept content).

c.1. -- *The concept classification.*

We saw it already, harmologically, WDM 88 (distrib, en coll. structure); 143 (omne/ totum); 226 (all; whole); 241 (dual inheritance).--divide, classify,--is to divide or classify a totality (= collection, system) into its elements, parts.

WDM 247.

Cl. Levi-Strauss, *La pensée sauvage*, Paris, 1962, 24, writes in this regard what follows.

(i) He has, as an ethnologist, analyzed - for years - the thinking of the "savages" (archaic-primitive thinkers). He established, in the process, that they already worked in an orderly fashion and, thus, prepared our Modern methods.

(ii) "Already (interject: among a number of things) the cleanest pick out seeks classification. Any classification is better than disorder. And, even, a classification on the level of sensory properties is a milestone on the road to a reasoned order (WDM 208/211: C1. Lévi-Strauss method on totemism);

Supposedly: one is asked to rank ('classify') a bunch of fruits other point of view of weight (heavier/lighter; WDM 189: differential). It will be justifiable to start by shifting the pears and the apples. Not because shape, color, and flavor have anything to do with weight and size. But rather because the largest, among the apples, are more easily distinguished from the smaller ones than if the apples remain mixed with fruits of a different type.

On the basis of this example already one sees that - even on the level of aesthetic perception (the largest are the most beautiful,-- hence: 'aesthetic') - the classification proves its soundness."

The two main features of a successful layout.

Lahr, *Logique*, 500, puts two requirements first.

(1) A classification should be 'adequate' (= complete)).

The total sum of elements/parts must coincide with the totality of the collection/system, to which a conceptual content is applicable.-- This is to avoid forgetting some elements/parts.

(2) A classification should be irreducible.

The elements/parts must not run together. If not, list some of them more than once.

Appl. model.

The simplest classification is the dichotomy (WDM 168v.). Consider what economists (state economists) call "the magic pentagon of economic policy. This includes:

1. A balanced labor market,
2. economic growth, which is balanced,
3.a stable price level,
4. an equitable distribution of income and
5. A balanced balance of payments.

WDM 248.

Under the point of view of ‘classifying’ one sees, on closer inspection, that those five points can be reclassified, among other things:

a. labor market, growth, price level, and balance of payments are purely economic factors (internal equation; WDM 107),

b. income justice is a social factor, (external comparison; ibid.): in this second case one does not stay within the purely economic order.

The reclassification is also possible in another way:

a. labor market, growth, price levels, and social justice on incomes are domestic economic factors,

b. balance of payments refers to the external economic situation (again : internal and external comparison).

(i) The classification seems adequate, at first sight : no main factor - for that is what it is about - has been forgotten. And yet : the Greens or Ecologists, resp. Ecolo-Pacifists find that one main factor is forgotten:

6. healthy middle of life. ‘Balanced economic growth’ (factor 2) should not be understood as purely economic (as ‘economism’): it should be ‘humane’ and ‘livable’.

Conclusion.

There are, other point of view of classification, two types of economic policy: the “Economist” (= which overemphasizes the mere pursuit of profit) and the “Green”.

(ii) ***The classifications***

the Non-Green and the Green are irreducible: none of the five or six factors can be reduced to one or more of the others. For example, the labor market is irreducible to economic growth or a healthy environment. Etc.

Note.-- Ontologically speaking, it seems that the Green approach to economics is more complete, i.e., more “real,” than the one-sided Economist view, which is limited to the economic-social.

And a purely ‘Economist’ (in the one-sided Liberal free-market sense) approach, which takes no (or too little) account of the social, is even more ‘unreal’. So that, ontologically, we have a triad:

(1) purely Economistic,

(2) Economist-Socialist,

(3) Green.

This, because one increasingly exceeds the internal comparison by the external. By which one looks at reality less one-sidedly.

Ontology can, therefore, be very practical.

‘WDM 249.

Note -- Figure/ background.

WDM 168.-- The complement ‘Non-Green/Green’ is one application.

(i) One outlines, first, as background (information), the “magic pentagon” of Economist-Social economic policy.

(ii) Against that background one then draws the ‘figure’ (= essence form, forma) of a Green policy. Seen this way, classification is more than a numerical - enumerative representation.

c.2.-- *The definition of terms.*

1. A definition, i.e., the uttering of the content of an idea, is a “mutual” (WDM 154) utterance, in which one speaks of the subject, viewed according to its total content of understanding (the original), in terms of the saying, which, as a model (information), represents that same content, (*Ch. Lahr, Logique*, 620).

2. *Two kentracks.*

(i) As already the mid-century thinkers said : a successful definition reflects the defined and only (exclusively, exclusively) the defined. “De solo definito”.

(ii) The lucky definition represents the defined whole (all the elements, whole the system). “The omni definito”.

Conclusion.-- “De omni et solo definito”: the whole defined and only the defined.

c.2.A.-- *The concise or summary definition.*

Usually, in Aristotelian - Scholastic tradition, one considers a definition in its summary form.

(i) Reread WDM 106.2 (categoremen, predikabilia, universals).-- There the basis of the concise definition comes up. See also WDM 245.-- To give such a definition of e.g. man, it is sufficient to quote the genus (universal collection.), as background (information), (Man is an animal creature), and then to indicate the species (= specific) difference (subset), as ‘figure’, (Man is an animal creature, who is mentally gifted’).

(ii) Something in an analogous nature be quoted briefly.

Taxinomy’ (also: taxonomy) is the insight, possibly scientific, into the order(s) that govern the classification of data (e.g. in biology). In short: classification theory.

G. de Landsheer, *Introduction to Educational Research*, Rotterdam/ Antwerp, 1973, 15, talks about “an integrated set of precise definitions, easily manageable.”

WDM 250

Note.-- Usually such a concise definition of beings is impossible.-- One replaces them, then, with weakened forms.

(1) ***Characterization definition***.

One describes the fact by listing either the most striking external characteristics or the provisionally essential general characteristics.

Note.-- A Phenomenological description, in its 'empirical' (not yet 'eidetic' or essence-describing phase), begins with something like this (WDM 44: that which, immediately, is given; 68vv.: intentio).

Applicable model.

Lahr, o.c., 497, gives "paper" as an example.

(i) Something (always that ontological pedestal),

(ii) which is usually white, but also colored, has a square or rectangular format, is leaf-shaped,-- thin, light and writable.

Proceeding in this way gives a descriptive (descriptive) definition.

(2) ***Analytical definition.***

At home in chemistry, this definitional can be extended to other subject sciences.

(a).-- For example, "Paper is a chemical 'substance', leaf-shaped, consisting of cellulose fibers, which crumble together so that as a whole they hang firmly together."

(b).-- The industrial definition reads, e.g., as follows: "Old rags -- later wood, straw, etc.-- are worked into dough ('paper dough'), to which glue is added (except in the case of unglued types of paper), to give this product, afterwards, its leaf shape."

The industrial definition says out how one produces something.

Conclusion.-- Such a subject-scientific and technological definitions isolate the defined or from the rest (WDM 168: dichotomy) by making the creature form sufficiently distinguishable (WDM 28)'. - De solo et omni definito! As long as the defined is separated and defined in its entirety.

c.2.B. -- ***The verbal (nominal) and the business (real) definition.***

(i) -- ***The verbatim definition***.

This amounts to defining, within the common sense and/or the professional scientific, respectively philosophical language, one or more words ('term'; WDM 241) in more detail.

There are many types of these.-- Thus, among others, the descriptive definition, after Hampel (1966),-- different from the one just described.

WDM 251.

Terms already used are delineated, in their established meaning.

So too is the stipulative definition: one gives an already common term, arbitrarily, but for reasons of understanding, above all, a new and provisional meaning.

Further: the theoretical definition, which, starting from existing theoretical terms, fixes something in such terms; the ‘analytical’ (different from the above-mentioned) definition, which, starting from already established theoretical terms, introduces new ones; the operative (operational; WDM 135) definition, which fixes a given fact, preferably in already established theoretical terms, but - according to *Bridgman* (among others in his *The Logic of Modern Physics*, New York, 1927-1; 1930-2) - adds the whole of the deeds (‘operations’), which have to be done to understand and represent the meaning; the contextual definition, which situates a term in its pre-scientific (‘pre-theoretical’) and scientific (‘theoretical’) context, as background;

Even one can mention here the so-called usage definition: standing up for children, the teacher connects the meaning of data from the environment (of the child, especially) with phrases such as “an apple, -- that is something you eat” or “Father’s hammer, that is that with which he knocks nails into the wood”.

Conclusion.

all of these forms of word-by-word, terminological, definition illuminate the semasiology (what the semasiological analysis, of meanings, reveals) of terms.

Note.-- In artificial languages (WDM 133: transformational-generative grammar);--especially something like Peano’s pasigraphic language (WDM 131/133) or like logistics (WDM 231/239)) one finds what is called explicit (explicit) definition: in the language of symbols one formulates a definition e.g. of ‘number’, of ‘class’, etc..

Although they may not reproduce all the features of a given fact, all these types must obey the rule “de solo et omni definito” (reproduce only what is defined, if possible in its entirety). Look at the lexicographers (dictionary compilers), who specialize in defining language use.

The appl. model.

Lahr, Logique, 498, gives as a model the term ‘soul’. When I describe ‘soul’ as the principle of conscious life, without going into the complete nature of being (‘de omni definito’), then I mean precisely to give (even if only provisionally) an indication of the word ‘soul’ as far as I use it in my language, by saying e.g. : “In Cartesian philosophy, the soul is the ‘thinking’ (i.e., representing conscious life) principle”.

WDM 252.
(ii).-- *The business definition*.
It already has a long tradition.

Socrates of Athens (-469/-399; the founder of the ethical and political (macro-ethical) definitional method) had his surroundings, wrapped in a deadly struggle with Proto-sophistic (-450/-350), concerning the question whether or not e.g. the idea 'good' resp. 'evil' was based on reality (WDM 79), define the micro- or micro-ethical terms as precisely as possible ('akribeia').

In order to demonstrate that - thus - reality (micro-ethical, i.e. concerning the individuals and/or the small communities, macro-ethical, i.e. concerning society, as a whole or in its larger parts) was represented, Socrates proceeded inductively.

Thus, e.g., he tinkered with the use of words (nominal definition) -- take the word 'justice'; 'virtue' etc. -- in the context of the vernacular (commonsensical language). On the basis of that sometimes very one-sided word, he made his students, including the great Platon, analyze cases (= applicative models) of 'justice'; 'virtue' etc. This, in order to test the lemma, which lies in such provisional definitions, against reality.

In other words: one type - the micro- and micro-ethical - of the lemmatic-analytical method, which Platon generalized (WDM 22).

Aristotle of Stageira (-384/-322), the founder of elaborate, classical-traditional logic and ontology, worked, like Socrates and Platon, his teachers, inductively.

Bibl. st.: *E. Treptow, Der Zusammenhäng zwischen Metaphysik und der Zweiten Analytik des Aristoteles*, (The connection between metaphysics and Aristotle's Second Analytics,), in: *Epimeleia* (Munich), 1966.

Theme.
(i) *Given*.
All men, at certain times (time) and places (space; WDM 84v.), have observed the phenomenon (WDM 44) of lunar eclipse, a truly amazing fact (WDM 8).

(ii) *Requested* (= sought).
An explanation, preferably causal (WDM 183), that makes the phenomenon understandable, no longer "surprising.

WDM 253.

(B) ***Lemmatic-analytical method***.

(1).-- Aristotle provides an initial definition:

"sterèsis tis fotos", (the absence of light). If some absence of light is postulated, then the astonishing fact of the lunar eclipse becomes understandable ('explained'). Immediately here is a beginning of science.

(2).-- Second definition.

Aristotle says: one can also 'explain' the lunar eclipse as the fact that the moon, of itself, is incapable of shadowing. -- This still does not say what precisely governs the lunar eclipse (WDM 7), - its principle (the 'archè' Lat.: 'principium', the principle).

Well, in the eyes of all of antiquity, Aristotle in particular, science is the knowledge of principles; i.e., of what governs phenomena.

(3).-- ***Third, causal, definition***.

One can, also, 'interpret' the darkening of the moon as a causal connection (WDM 85: activity/passivity: 183: cause/effect 199: necessary and sufficient conditions).

a. ***Application:***

"If, in the interval 'moon-sun', at any given moment, the earth e.g. is interposed, then the fact (the phenomenon) is fully, because causally, explained."

Immediately there is science, in the Antique sense of "insight into the principle," i.e., into that which governs the phenomenon.

b. ***Causal definition.***

"The full definition - says Treptow, o.c., 51 i.e. the actual 'ti esti' (what is it right?), is, then: the eclipse is

(i) the absence of moonlight (first definition),

(ii) for the reason of the interposition of the earth (third, principle indicating definition), between moon and sun,

(iii) because, by itself, the moon does not give light (second definition)."

(C) ***After this lemma, there is the analysis.***

(a) From that hypothesis one can deduce possible experiments (deductive reduction) concerning future lunar behavior.

(b) If these predictions, supported by the hypothesis (lemma) defined in the definition above, are verified, then there is an inductively sound definition, in Aristotelian style.

WDM 254

Current example.

Bibl. St.-- *Sonja Vanoutryve, The withered colors of the wallflower*, in: *De Nieuwe Gids*, 15.12.1987, 21.

One knows, well, from art history the bauhaus (actually: das Staatliche Bauhaus), in Weimar, - an institute for art, especially architecture (1919/1932), founded by Walter Gropius (1883/1969),-- later moved to Dessau (1925/1932) and Berlin.

In 1928, there, among others, is *Johannes Itten*, color teacher. This, with as colleagues, among others, a Kandinsky, a Klee, a Schlemmer.

1. His book *Color Theory* reads:

"In a painting class, I taught about 'harmonic color chords.' ' Of 'harmonic color chords,' I had not, at the time, given a definition.

After about twenty minutes, I noticed that the students became very restless. When I asked why (WDM 7: the principle that governs this restlessness), the students replied that they experienced the given color chords as unpleasant and discordant. - All right' I said 'then paint 'chords' that you feel are pleasant'.

They did it. Afterwards, I noticed that each student had painted, on his paper, several similar "chords.

Then I asked them to hold the sheets in front of their faces so that both their faces and their color chords could be seen. Then we all discovered a remarkable similarity between

(i) the color expression of each face and

(ii) the associated color chords".

Up to there Itten himself.

2. Further, Itten writes

"For the assessment of the subjective color chords are normative

(i) not only the color of the hair, eyes and skin;

(ii) the most important measure is the 'radiation', which emanates from a human being".

Conclusion.

Educationally, Itten was bipartisan:

(a) he gave objective color theory;

(b) he was, in the process, open to the subjective and, moreover, individual reactions of the pupils, each separately, to those objective data. As he himself says: he learned to meet "the naturally given, individual way of thinking, feeling, acting" (WDM 44), i.e. to recognize a phenomenon, direct-personal. This, both in himself, as he took an interest in how his students, subjectively-individually, "defined," and in his students themselves.

WDM 255.

Sonja Vanoutryve tells, further, how this discovery - a true induction - entered the very open USA. For example, there is an American psychologist, who wrote a book about her experiences (inductive method) as a color counselor, Carol Jackson.

By the way: Belgium also has its color consultants (e.g. the psychologist Christine Lenvein). Everything that has to do with (especially female) make up can benefit from them.

Note -

The idea of "complementarity" (the fact that something complements something else) seems to be fundamental.

"Those who flounder through J. Itten's color theory can clearly see that e.g.
(1) a blue spot on a green surface is something entirely different from
(2) the same blue spot on a red background (cf. WDM 168v.: figure/ background).

It has something to do with the complementarity of colors. It has already been established, by experts, that the human eye finds peace when seeing complementary colors.

Are the colors, nevertheless, in contrast (WDM 153vv.: antithetical comparison), then still a certain way of stability will be sought,--by making colors, as it were, 'psychologically' complementary.

Those who sit - in front of the mirror - with the different color cloths under the face, can clearly notice (induction) that
(1) some colors cause the natural skin tone to "pull away.
(2) some others "break" the face and
(3) giving the 'good' the same countenance a special radiance" (A.c.).

Even the natural and cultural landscape has to be taken into account: a winter palette (pure colors), a spring palette (fresh as with spring flowers), a summer palette (colors bleached by the sun) and an autumn palette (more mixed colors) come into play,-- says always our Sonja Vanoutryve.

Conclusion.

Also in so-called 'subjective', resp. 'individual' cases, induction and inductive definition based on it come in handy.

If Itten's students find the palette (harmony) he presents "unsettling" and gives an "impression" of unpleasantness and shoutiness (disharmony), they will spontaneously incorporate these subjective-individual experiences into their definitions - "That palette is ugly". "That palette is pleasant", etc. - interpret.

Compare with WDM 219/223 (sign designation: and ye see that one can even speak of palette designation.

WDM 256.

Note -- A small comparison.

Ernst Jünger (1895/1998), one of Germany's most controversial literati and thinkers, who, while still a National Socialist, wrote his *Der Arbeiter* (The worker), (1931)-a book he never renounced later, when, from 1933 on, he began to break with Hitler (it describes modern man as situated in a technical landscape of nature and, above all, culture, as 'Arbeiter'), defines, in *Strahlungen*, (Radiations), Tubingen, 1949, 193/270 (Caucasian Aufzeichnungen), the women, whom he, in transit, as a German soldier, met in Voroshilofsk (formerly Stavropol), on 25.11.1947.

"The weather is rainy (...). The voices of the women, especially those of the girls, do not sound - in the proper sense - melodic; they do sound 'pleasant'. One has the impression that one hears a 'tiefe Lebenssaite' ('deep life string') vibrating.

It gives the impression that - over such forces of nature - the constructive and schematic changes (*note:* peculiar to the technical culture, in its Soviet variant of those days), without causing any abrasion, glide lost.

Something in the same nature struck me, once, among the South American Negroes: that deep unbroken cheerfulness,--this, after generations of slavery.

By the way: von Gravenitz, staff physician, told me that, in medical examinations, the vast majority of those girls were found to be "pristine" (virginal). Such a thing is also visible physiognomically (*note:* physiognomy is facial characterology).

It is difficult to say whether one can read this from the forehead or from the eyes. It is, in any case, "der Silberglanz der Reinheit" (the radiance of purity), which blossoms around the face. Such a light does not have the soft glow of an actively practiced virtue; it radiates, rather, like the moonlight, from 'second hand'. Yet, precisely because of this, one suspects 'die grosze Leuchtkraft' (the great luminous force), which is the source of the joy noted here." (o.c.,208).

Note.-- One will note that Jünger is interpreting purely subjective impressions, when he defines the South Russian girls, in the years 1942, in full World War II, as "naturally vigorous," "bright-happy," "luminous; "pure. And yet: reread WDM 254 ("the radiation, which emanates from the face"), and you will recognize an analogy with Itten 's induction concerning colors (radiance).

WDM 257.

By the way: what is “subjective” right? Did we not teach, 34vv. (misunderstanding of ‘being’) that - apart from the ‘objective’ being - there is also a ‘subjective’ being (reality)? If Itten’s impressions gave rise to a profession (colorist), then a special type of reality, irreducible to pure fictions, must be involved. Why should this not also be the case when Jünger, for example, thinks he can ‘read’ (he admits that he does not know how to do this) the virginal purity from the spontaneous happiness and the ‘glow’ of South Russian girls? There are kinds of reality (‘being’), which have the essential nature of what the Milesians, once, called ‘the smug’ (fluidic; WDM 12), property par excellence of a primordial reality.

Was this different, when the three intimate witnesses of Jesus’ transformation saw Jesus’ outward mode of appearance change such that “he changed appearance (‘form’), before their eyes, and his clothes began to shine,--with a whiteness, which no volder (cloth maker) on earth can attain to that degree” (*Mark 9:2/3*)?

There is -- by the way -- a terminus technicus, which designates such a thing: ‘aura’ (emanation-belt,-- around, but especially from a material datum).

Our ontology certainly taught us one thing:

(i) we do have a vague, transcendental concept of ‘reality’,

(ii) with all modalities, -- we know these only partially. Our knowledge of “being” is grounded only in inductive sampling. Nothing more.

Lahr’s appl. model.

As an example of businesslike (not merely wordlike) definition, Lahr, o.c.,408, again gives the soul.-- “If I define the soul as ‘a spiritual (understand: incorporeal) being, gifted with intelligence and freedom, destined to be one with a body; then I testify that I wish to define the matter itself (‘businesslike’).” And not the language, though it was that of the Cartesians.

WDM 258

The scientific role of verbal and business definitions.

In summary, the nominal definition is an incomplete definition, recited as hypothetical and provisional; the business definition is a complete definition, recited as decisive and definitive'. (Lahr, o.c.,499).

a. ***Scientific Research***

Every scientific investigation starts with a verbal definition, as a lemma (provisional insight), which serves as a power idea (A. Fouillée). In the course of the investigation of the fact (the case, which the name refers to), this initial definition grows into a - preferably inductively justified - factual definition (which, thanks to analysis, is verified).

WDM 217v. taught us the couple "sense/foundation": the verbal, initial definition is a sense foundation, subject to analysis; the business definition, thanks to the completed analysis, is a sense. From sentence foundation to sentence conception: such is the course of science

b. - ***The universality debate***

From here we understand the universals discussion. WDM 105.2 taught us the most essential thing about this.

The bottom line is this.

(a) The Nominalists (WDM 36) postulate that a concept (definition) is only a 'name' ('nomen' in Latin), which belongs to the use of language. Whether something-in-the-reality (the ontological-modal aspect) corresponds to it must, in all cases, be proved.

(b) The Realists (understand: Conceptual Realists) also know, of course, that a concept, in itself, is not yet a proof of the fact that, to it, something-outside-the-mind, which thinks that concept, exists. But they are convinced - against the Conceptualists - that, in objective reality, something that has the same structure, corresponds to that the idea and the term, which we define.

But only after analysis: one is a lemma, a working hypothesis, which can serve as a guide ('idée-force', power idea, in Fouillée's language) in the investigation (=analysis) of reality. When the idea, which is being examined for its veracity, has been verified, then one knows that the conceptual realist, on that point, is right: the working hypothesis is more than a name, more than a concoction.

(c) The "more abstract" and the "ideative" conceptualists.

Among the Conceptualists there are two types. With e.g. Aristotle, abstractionists claim that a universal concept is abstracted from the singular-concrete data (hence: 'abstractionist') : the singular-concrete facts, as applicative models or applications, are summarized (WDM 125: summative induction; 143;-- 5) into one rule (the regulative model, which is universal).

WDM 259

With e.g. Platon, the ideationists claim that, apart from the nominal aspect (i.e. the word, the words, in a word: the term) and the abstract aspect (i.e. the ‘forma’ (WDM 28) or form of being, resp. universal regulative model, in our mind), there is an ideation (process) at work: while we think word and term, together with the idea, in our mind,-- while we verify both, in the analysis of the reality corresponding to it (from the nominal to the real definition, thus), we come, with the same mind (‘nous’, intellectus, mind), into contact with the origin, the arche (WDM 7: that which in our terms and ideas governs its verifications, as its principle), which - since Platon - is called idea or eidos, essence-form (‘idea’).

It is the condition of possibility of both our terms and concepts and of their corresponding real structures.

Four models we say: WDM 50 (ideal and ‘reality’ - farthest: principle of reality and the reality governed by it itself); 107 (Augustinian interpretation: ‘the caricature (of the ideal) and the ideal controlling that caricature’); 194 (the laughable-tremulous caricatures and the this controlling divine ideas, after Gogol’); 229 (‘this’ -- visible and tangible, material and perishable, ‘world’ and the this controlling transcendental, eternal and imperishable ‘world’ - after Platon).

Two further models.

(1) *Dr. Jenny de Jong-Gierveld, The concept of ‘loneliness’ in theory and practice*, Deventer, 1980 (=Comments on the method of using the theoretical concept of loneliness in social science research). Steller distinguishes two phases or, rather, aspects of ‘conceptual’ (= understandable, ideal) behavior.

(1) ‘Conceptualizing’ is the formation and definition of concepts,-- easily hand in hand with the establishment of a theory (WDM 251: theoretical, ‘analytical’, contextual,-- explicit definitions)

(2) ‘Operationalization’, is to enrich the conceptualized concept with indications that concern the use value (cf. WDM 251: use definition) of the concept in question, i.e. the so-called empirical variables, such as:

WDM 260.

1) questions(lists), in which the concept of loneliness appears, e.g. ("Do you feel lonely?"; "What evokes, in you, the idea of 'loneliness'?")

2) research items (*note:* an 'item' (from Latin 'item') is an element, 'point', from a list (of questions e.g.)); further:

3) prescriptions ('instructions') regarding the learning of scientific observation and of the phenomenon - e.g. 'loneliness' - itself and of the language in which those involved express themselves about it; also

4) 'scoring rules' (i.e., designating how to establish and record results (achieved results)).

Reference is made to e.g. *R.W. Boesjes-Hommes, The operationalization of concepts*, Meppel, 1970.

(2) G. *van der Leeuw, Phänomenologie der Religion*, Tübingen, 1956-2, (*Phänomen und Phänomenologie*).

The (intentional; WDM 66: object-oriented) phenomenology WDM 70) proceeds, likewise, starting from a provisional term (nominal aspect) to arrive at a real, the "thing itself" ("zu den Sechen selbst" says Husserl) i.e. the phenomenon itself, reflective definition in a scientific way.

O.c., 772, van der Leeuw says: We have the task of speaking about the one that has shown itself (*op.:* phenomenon) to us. This kind of speaking includes (...) stages (...).--giving, to begin with, that which has become visible (*op.:* the phenomenon), a name. All speaking, after all, is, at first, giving names.

"The simple use of names is a form of thinking, situated between **(i)** the perception (*note:* of the phenomenon) and **(ii)** the definition of that perception" (*W. McDougall, An Outline of Psychology* (1926), 264). (...)

In other words: in the naming we classify (WDM 246vv: concept classification) a phenomenon". (Thereafter follow the further phases of the Phenomenological method, about which more later).

Appl. model.

F.Flückiger, Geschichte der Naturrechtes I (*Die Geschichte der europäischen Rechtsidee im Altertum und im Frühmittelter*), (History of Natural Law I (The History of the European Idea of Law in Antiquity and the Early Middle Ages),), Zollikon-Zürich, 1954, 35, provides an application.

To designate law instituted by deities - not ideological-human - the Archaic Greeks used two terms 'Themis' (o.c., 17/34) and 'Dike' (o.c.,34/51).

WDM 261.

a. The two mean, in the Archaic-Greek language, both the goddess, who founded the law, and the phenomenon (= the law) itself : in and yet above the phenomenon, the type of law, was - according to the Archaic Greek - a divine being at work, establishing order(s) in society.

Note: thinking solely in terms of ideology (WDM 18: a construction conceived by men,--in the service e.g. of society) about these Archaic phenomena (and the language associated with them) does not do justice to the facts themselves.

b. With this - according to Flückiger himself - the religious phenomenologist begins.-

That the analysis (both of the names and of what corresponds to them) in the Antique Greek -legal life, discovers that e.g. Themis, Primal Law, includes the rules that e.g.- The analysis (and what corresponds to it) of e.g. Themis, Primal Law, finds that the rules which regulate e.g. hospitality (one gave gifts to the guest or stranger, admitted into one's own house), the worship of deities (especially the deities proper to the family and the family), the swearing of oaths, the relations of both sexes, premarital and intra-marital, blood vengeance (in case of eventual murder), the bringing of sacrifices, the worship of the dead, etc., make of the nominal, provisional definition a real or factual, 'case-checked' definition.

That the same comparative analysis blots out the provisional term 'Dike' as the set of rules of conduct, which governs life in the polis, city-state, turns the provisionally defined term 'dike', into a verified idea, specified according to conceptual content and scope.

In other words: however peculiar, with respect to the natural sciences or the mathematical-logical subjects, Phenomenology proceeds in an analogous way,--at least if it is to become a "science.

(3) -- *Platon, Der siebente Brief* (*An die Verwandten und Freunde des Dion zu Syrakus),* (The seventh letter (To the relatives and friends of Dion at Syracuse), Calw, 1948, 36ff.;

-- *V. Goldschmidt, Les dialogues de Platon* (*Structure et méthode dialectique*), (Plato's dialogues (Structure and dialectical method),), Paris, 1947, 3ss.,-- they give us, with Platon, precisely the same scientific method.

"For any given (*note:* the ontological stakes), there are

(i) Three methods, which allow for scientific understanding of it;

(ii) that scientific understanding itself is the fourth method.

(iii) Fifth, one must place the object itself (*note:* the idea, in the strictly Platonic sense): it really exists and it is knowable.

WDM 262.

The first is, therefore, the name; the second the definition; the third the ‘image’ (*note;* Platon’s term for the phenomenon); the fourth is the science” (V. Goldschmidt, o.c.,4).

Behold how Platon himself outlines his method, which goes from nominal to business definition. Name, definition, and (contact with) the phenomenon (which is the ‘image’ or ‘representation’ (‘mimesis’) of the idea depicted in it),--phenomenon, which, ultimately, is meant by that name and that definition,--these three culminate in the scientific understanding (‘science’).

But both the name and the definition and especially the phenomenon are but pictures of one and the same reality, the idea, which gets in it its name, its definition and its appearance in this earthly world. In our language (name), in our mind (definition), in our experience (‘picture’ or phenomenon),-- in our science, which speaks that language, which founds our mind, which is about our experience, the light of the idea rises.

This is called ‘the light metaphysics’ of Platon. It stands or falls with the ‘archetype’ or ‘paradigm’ which is the idea.

Applicative model: the circle.

Platon, Der siebente Brief, 36, gives an example.

(i) “‘Circle’ (kuklos, circulus) e.g. is something, which bears the very name, which we have just pronounced” In other words: just like the mere Nominalists, who were the Sophists among others, Platon starts with the name.

(ii) “The second thing that concerns the circle is the definition expressed in our language, which consists of nouns and verbs,--in this case: ‘all that in its extremities is everywhere equally distant from the center point.’ Such might well be the definition of that fact which is meant by the name ‘round’, ‘circle’, ‘circle’.”

In other words: once the name has been echoed, Platon attempts to introduce a definition,-- hesitantly, as is evident here. After all: this definition must be tested for its reality.

(iii) “The third point is the material image of the circle, perceptible by our external senses, -- e.g., made by a draughtsman or an art turner.

This is something that can be erased and destroyed afterwards. To be erased or destroyed are things not incident to the idea of ‘the circle’ (the archetype), with which all these professionals are concerned. ‘The circle in itself’, after all, is something else’ and something that (of its ‘images’) is thoroughly different!

WDM 263.

In other words: Platon applies the principle of visual education: the name and the definition start to come to life; for the child, for example, but certainly also for the adult, when they can be connected (= method of association) with an object viewed or shown,-- here a circle, which an ancient Greek draughtsman elaborates in the warm sand, or a round disc, which the turner skillfully interprets in clay.

(iv) "The fourth point is scientific knowledge, i.e., the fact that our rationally thinking mind (= nocturnal aspect) grasps the objectively true representation, present in such things (*note:* circle drawn out in the sand, disk in clay)."

With this Platon exposes our 'nous', intellectus, mind, which -- while articulating the name, while defining, while 'beholding' an applicative model ('the image' or phenomenon) -- this is the 'beholding' of sense, of course -- grasps the idea, somewhere. This 'grasping' (WDM 217: sense grasping) Platon also calls 'beholding', but non-sensory, purely rational or 'spiritual' 'seeing' ('beholding').

Platon adds, to this, that 'science' (in its, Platonic sense) is something situated "in the soul." 'soul' (WDM 257) is, in his system of thought, a main thing. In contrast to the 'abstract' thinking Aristotle - however his student, to a certain extent -, 'soul' for Platon, is something immortal.

Note.-- To the immortality of the soul Platon attaches, by the way, one of the signs - so he thinks - of the fact that man has knowledge of ideas : in a previous life - somewhere in a world of light - each one of us contemplated (at least in principle) the world of ideas (WDM 229).

(v) Platon emphasizes, in the Seventh Letter, that neither name nor definition nor example nor, even, science, which constitutes the superstructure of these three points, are the idea in themselves. 'the circle; 'the circle in itself' is superhuman. The idea is, further, totally incorporeal and superhuman.

WDM 264.

The Platonic Thought Society.

The Milesians, the Paleopythagoreans are known for their forms of "thinking society" ("hetaireia"). But Platon also had his thoughts on this.

Bibl. st.:

-- *A. Gödeckemeyer, Platon*, Munich, 1922, 61/68 (*Die Schulgründung*);

-- *Thorkil Vanggaard, Phallos* (*Symbol und Kult in Europa*), (Phallos (symbol and cult in Europe),), Munich, 1971, 21/47 (Paiderastia);

-- *H.I. Marrou, Histoire de l' éducation dans l 'antiquité,* (History of education in antiquity,), Paris, 1948, 55/67 (*De la pédérastie comme éducation*), ((On pederasty as education)).

"Thus EROS (*op.:* erotic love), for man, becomes the greatest blessing and the source of the highest goods, which are at his disposal.

(i) The irrational moment (*op.:* motive) of "love" is, in the fundamental sense which it has long possessed for Platon's thought, emphasized with the greatest insistence. Without eros nothing comes of philosophizing. Philosophy is not for narrow-minded people.

(ii) But only the true love-community of the philosophical natures can direct this passion in the right direction. Therefore Platon now proclaims the narrowest connection between the two, "eros" and philosophy, as he also wished to realize it in his school (the Academy). "For not every eros is beautiful and praiseworthy, but only that eros which incites to noble love." (A. Gödeckemeyer, o.c., 67f.).

Note.-- Usually, by those unfamiliar with true Platonism, it is claimed that Platonic theory of ideas coincides with 'rationalism' or alienation from life. Nothing of the sort!

Thorkil Vanggaard, the author of *Phallos*, is not the first to know. Physician (1941), psychiatrist, leader of the psychotherapy department at Rigshospitalet's clinic (1960+), prof in psychotherapy at the Univ. of Copenhagen, president of the Danish psychoanalytic society (1957+),--he wrote a profound -- and honest -- work on the Antique-Greek "paiderastia," "boy love" (word, which is totally mistranslated by our terms "pederasty" or "homosexuality").

Platon - like a whole streak in the Antique-Greek world - was convinced that 'culture' is transmitted very smoothly, if between teacher and pupils, between pupils (the older one) and pupils (the younger one) there was the relation 'lover/loved one'. The element of 'carried away admiration', which is awakened in the eros of a young person for an older one, works, by transference (WDM 149: Ribot), through, from the teacher or the older student (in) to the student(in) or the younger learner.

(i).-- *Equalization transfer.*

One wants to resemble the admired one, with whom one is "in love," also in his philosophizing.

(ii).- -*Appointment transfer*.

One falls "in love" not only with the person who teaches philosophy, but also with the philosophy itself.

This makes us better understand the following text: "From frequent conversations, -- especially on philosophical subjects, as well as from intimate fellowship, the idea suddenly springs up in the soul. Compare this to a spark of fire, from which the light that is lit rises. The idea then finds its own way. (*Der siebente brief*, 35).

Conclusion.-- Science, yes, but also "life," life in the small-scale group, -- life in dialogue (Platon wrote only dialogues),-- nourished by and from the psychoanalytic depths nourished "eros," which is, the lifeblood of it,-- such is Platon's theory of understanding.

General Conclusion.

We discussed two applications,-- the Operationalist (WDM 259) and the Phenomenological (WDM 260), Compared to the Platonic one, similarity (from the verbal to the business definition) and difference (especially the Operationalist method is one-sidedly traditional; but also e.g. the Husserlian Phenomenology is rather individualistic) stand out. The Platonic is life brought to full understanding,

d.-- *Concept ontology.*

Harmology and logic are not epistemology (theory of knowledge).-- Yet something is wrong with a theory of concepts if one does not pay attention to the relationship between the concept (idea) on the one hand, and the realities intended by it, on the other.

Bibl.st. :

-- *Ch. Lahr, Logique*, 660/716 (Logique critique;-- esp. 662/676 (*Vérité logique et le problème des universaux*);

-- *Denis Vernant, Introduction à la philosophie de la logique*, Bruxelles, 1986, 87/118 (*L' ontologie de la logique*), ((Logical truth and the problem of universals)).

-- *Gr. Currie /A. Musgrave, ed., Popper and the Human Sciences*, Dordrecht/ Boston/ Lancaster, 195 (*L.J. Cohen, Third World Epistemology*, o.c.11/12).

WDM 266.

Beginning with a Scholastic statement, "Our Categories (*note:* Mercier does not mean only 'categories' (WDM 83) as fundamental concepts, but also as ordinary concepts) are not the direct representation of reality but an interpretation (WDM 217) (*Kard. D. Mercier, Logique* (1922), 98).

The whole Scholastic tradition makes, in this, the distinction between "material object" and "formal object" of our knowing.-- Take a beautiful apple (to borrow an example from Hegel).

a. For a girl, coming, hungry, from school, that apple - as a formal object, in her interpretation - is something edible: she grabs it, without asking Mum anything, and plays it inside!

b. To a dendrologist, that apple, the same apple, is something else. He 'sees' that 'fruit' as e.g. successful or unsuccessful. He 'sees' the tree species (dendrology is arboriculture).

c. For a painter, viewing the same apple as an 'aesthetic' object, it is an object 'to be painted'.

The Scholastics (800/1450) would say, "The same material object, the apple, is three times formal object."

Note.-- Cf. WDM 3; 105 where we have separated the ideas 'total identical' (= material) and 'partial identical' or analogous (= formal). The same total identity with itself ('materially' the apple coincides with itself) is amenable to a plurality of partial identities (= relations or points of view, i.e. 'formal' objects). Thus any concept that does not mean the total identity of something with itself is not the 'direct representation' of a reality, but an 'interpretation', as Card. Mercier says.

The concept as "relevant" or "selective".

R. Pinxten, The Notion of concept, in Cognitive Psychology (*An Overview and Critical Analysis*), in: *Philosophica Gandensia*, Meppel, New Series 10 (1972), 14/42, rightly observes that a concept - except when it means the total identity - is 'selective' (= choosing, shifting), concerning the information (WDM 29), which emanates from the corresponding object: "Only the relevant in the object is brought to the fore by the concept". Relevant' is 'weighty', 'relevant', 'essential'.

Conclusion.-- Man, except when he means total identity, is an interpreter or interpretant.

WDM 267.

Conclusion.-- Very accurately expressed:

(i) some of our concepts express total identity;

(ii) another - the largest - expresses a partial identity (relation, viewpoint).

The univeral discussion.

a. The categoremes, predicabilia or, still, 'universes' (WDM 245) fall under the heading of 'comprehension' (WDM 242), Now sometimes they are singular concepts (think of Karolina von Günderode), then again they are private or universal concepts. The transcendental concepts (WDM 243) are a category apart.

b. The discussion, initiated from Antiquity (Nominalist Sophists e.g., Abstractionist Aristotelians and Ideationist Platonists), see WDM 258 - was, from the Early Scholastic period (1000/1200), resumed. It continues, to this day.

1. Proof: *D. Nauta*, *Logic and Model*, Bussum, 1970, 258vv, where it is interpreted as a question of what our language(terms) grasp of the objective reality that language means. With regard to logic and mathematics, Nauta distinguishes three positions:

a. conceptual realism (G. Cantor and his Cantorism; an Abraham Fraenkel, who was a Platonist, along with the WDM 238 named Platonists, known as logicism);

b. conceptualism (WDM 32: Brewer and his intuitionism);

c. nominalism (a Martin and his formalism).

The terms of logistics or mathematics as a formalized science are, thus:

a. Platonic ideas (similar to what Platon says about "the circle" (WDM 263)), which exist independently of the human mind,

b. valid constructions of the human mind (conceptualism),

c. mere names (nominalistic).

2. Karl Popper (1902/1994), with Imre Lakatos (1922/1974), Thomas Kuhn and Paul Feyerabend (1924/1994), one of the four greatest epistemologists today, uses the term "third world" in this context.

The "first world" is the surrounding, "physical" reality; the "second world" is the totality of human states of consciousness; the "third world" consists of all that is "objective knowledge.

On closer inspection, however, Popper is,

(i) conceptualist (ideas are valid constructions of our minds),

(ii) but with a tinge of logicism (our thought constructions establish, independently of us, problems, which, therefore, are not constructed, but discovered by our minds).

WDM 268.

The modalities of being, to the point.

We have dealt, at length, with ontological modalities (WDM 38/65). That this - seemingly Middle Ages - theme can still be very topical, proves, e.g., *D. Vernant, Introduction à la phil. d. l. logique*, 92ss..

In *Principles of Mathematics*, London, 1937-2, Bertrand Russell underscored the apparent contradiction, which would be to claim that an object 'A' would not be attributable to 'being'. "The expression 'A is not' e.g., must always be either false or meaningless. For, supposing A were nothing, then the phrase "A is not" could not even be uttered. "A is not" implies, therefore, that there is **(i)** a Term 'A', **(ii)** true of being denied.

Consequence: A is" (*B. Russell, Principles*, LI, 427, 449).

D. Vernant adds, immediately, "Unless one dismisses the words as a 'flatus vocis' (*note:* the Middle Ages Nominalists claimed that a term (concept, idea) was merely a 'displacement of air brought about by the voice'),

(i) talking about an object,

(ii) naming seems possible only if (and only if) that object possesses a minimum of 'being'." (O.c.,92).

1. Reread WDM 2 (The sign language of logistics (and mathematics)); 51 (Sign and 'reality') and ye will see that Russell is merely applying here what the old ontologists said about modalities.

To call something 'A', in the context of either logistics or mathematics, is to grant it ipso facto (= immediately) the modality 'sign-within-our-reasoning-mind'. Whether there -is ('is') another modality to it, i.e. 'reality-outside-our-reasoning-mind-', is another matter.

2. It is true what Popper, on the subject, would claim, namely, that the phrase "A is not" is a construction of our mind (= conceptualism). And it is also true that such a construction of our mind, once it has been constructed, by our mind, represents a modality of being (i.e. the modality 'thought construction'). Which Russell, in the above text underlines.

And Popper, as a conceptualist-with-a-tinge-of-logicism (= Platonism), would, rightly, add: "Once there is a valid construction of thought, it exists independently of the constructing mind, which, sometimes, discovers things in that construction, instead of constructing them, e.g. the contradiction which Russell discovers in it.

WDM 269.

Note.-- K. Popper is far from alone with that AND conceptualist AND logician position.

a.-- Reread WDM 110, where the measurement model ('measure') is described both as subjective and as objective, simultaneously: the choice of the measure is subjective (// conceptualism), its use is objective (// logicism).

b.-- *J. Royce, Principles of Logic*, New York, 1961, 47/53 (Classes), comes to an analogous conclusion. Steller talks about the concept of class (WDM 245), as a means ('measure') of classification (WDM 246vv.). On the one hand, a classification (into classes) is always, more or less subjective; on the other hand, it is, unmistakably, objective.

"The only possible answer to the question of how the absoluteness of the logical principles (*op.:* on which to classify, to classify, is based) goes together with the arbitrariness of every classification, which we carry through, lies in the fact that the logical principles accurately establish the essence of 'the will to act in an orderly way' - which amounts to 'the will to act in a reasoned way'" (o.c.,53).

Conclusion:

(i) We construct, "design" (in Existentialist language) - conceptualism -

(ii) but we construct and design, within an order, which is objective and in which we are 'thrown' (again: in Existentialist language) - logicism. Certainly this is the case for those who want to do (formalized) logics or mathematics. There one is bound by the axiomatic-deductive order.

This is also the case for the empirical sciences : every hypothesis (lemma), however arbitrary, is situated in objective reality, through the testing against that reality (analysis, through inductive testing).

Thus: whether deductive or reductive, any act is situated within an objective order.-- Cfr WDM 2.

The intentional theory of understanding.

What "intentional" means was explained WDM 66.

1. *Ch. Lahr, Logique*, 494s., draws attention, in this context, to a Scholastic idea.

a.-- The 'intentio prima', first or spontaneous direction of our mind, as conceptualizing, lies in our concepts, in which it establishes reality.

b.-- The 'intentio secunda', second or looping (reflective) direction of our mind, lies in the fact that - instead of focusing on reality - it focuses on its orientation itself.

WDM 270.

What then does he discover? That which the Scholasticians called an ‘ens rationis’, a ‘thought thing’. - The pre-eminent example of this is the universals (WDM 106.2).

Another example: the term ‘A’ in Russell’s phrase “A is not” (WDM 268). Russell takes ‘A’ not as something by which something else is indicated, but as an ‘entity’ (‘something’) in itself, a ‘non-nothing’ that exists purely in his thinking.

2. I.M. *Bochenski, Philosophical Methods in Modern Science*, Utr. /Antw., 1961, 72 (*Semantic Stages*), gives us, of those Middle Ages ‘intentiones’, ways of thinking, a Modern version.

Here, the starting point is not consciousness, but language.

a.-- First, there are the things, tokens, of which our language speaks,-- in ontological language, the “being” (i.e., the zero stage concerning language).

b.1.-- Then there is the language (a class,-- better still : a system, of signs,-- speaking and writing signs), in which we speak, write about the being. This is called “the first stage or object language. Compare this with the first intentio of the Scholastics.

b.2.-- Follows a second language, namely that language in which we speak or write about the language. It is called ‘the language about the language or meta-language’. (WDM 237) .Compare with the second intentiones. Or ‘concepts about concepts’.

The paradox of the liar.

E.W. Beth, The Philosophy of Mathematics (*from Parmenides to Bolzano*), Antw. /Nijmegen, 1944, 78v., gives us the text of it.

“One asks someone, ‘If you claim that you are lying, are you lying or not?

(i) If this one answers ‘I lie’, the interrogator continues : ‘If thou claimest that thou liest and thou liest then thou speakest the truth. So thy answer is false.

(ii) If this one, however, answers, ‘I say the truth,’ it is objected to him: ‘If thou claimest that thou liest and thou sayest the truth then thou liest’.” To which Beth, o.c., 79: “Each of the answers is thus conducted ad absurdum (the incongruous; WDM 32; 34).”

With this we are in full eristics or sophisticated logic. Beth refers to *A. Rüstow, Der Lügner*, Erlangen, 1908-1, Leipzig, 1910-2, as to the work, which brought eristics up to date.-- According to Beth, the question comes down to this: “Is the liar’s assertion a judgment or not?” For, if it is a judgment, then it is susceptible of truth or falsehood.

WDM 271.

Father Bochenski, o.c., 72, sees it this way: “any expression in which there is this expression itself is meaningless.”

Reason: such a language would, at the same time, belong to the two semantic (WDM 91) language stages, viz. it would be at the same time language and language about that language. Or, in linguistic terms : it would be and direct and lateral speech, “Which is incompatible with the doctrine about the semantic stages”. (Bochenski, ibid).

The paradox of the liar does not give us any judgments: “In this pseudo-statement, after all, something is said about the statement itself.” (Ibid.). Only in a meta-language can something serious be said about it. But there is none.

The testability (verification/falsification) of concepts.

If, as in the professional sciences, especially, one wants to get from the nominal to the business definition of concepts, how should one proceed?

We follow, somewhat, the scheme of Hans Reichenbach (1891/1953; physicist and thinker; Neo- or Logical-Positivist (WDM 19; 118)).

To know when a business definition is truly “businesslike,” case-aware, reality-aware, a plurality of methods are available.

1.-- *The logical possibility.*

An idea is “possible” when no contradiction (WDM 30), i.e. no incongruity, can be found in it.

Appl. models.

(1) WDM 54 (a round square; two + two =/ four); 268 (“A, as thought content in itself -- is not”).

(2) Notes

Ch.Lahr, Logique, 495, specifies as follows.

The sub-ideas (sub-terms) of the total idea (term) ‘round square’ are, in particular:

a. surface area (which and round and square are both),

b.1. a curve (line) as the perimeter,-- only four straight lines as the perimeter,

b.2. identic length of all lines from the midpoint to the circumference, non-identic length of pretty much all lines from the midpoint. Which is contradictory (WDM 157; 231. And thus impossible, falsifiable, upon testing.

Which Russell, in 1905, formulates as follows : “It is untrue that there exists one and only one x, which is at the same time round and square.” (*D. Vernant, Introd. à 1. phil. d. l. logique,* 94).

Second example from Lahr: a non-felt pain (pain always implies that it has been felt).

WDM 272.

Conclusion.

Logical verifiability coincides with non-contradiction. It governs all axiomatic - deductive acts of thought.

2.A.(i).-- *Empirical possibility.-- Physical and technical type.*

(a) -- *Physical possibility.*

A concept is physically testable (verifiable/falsifiable), when it is non-contradictory with natural law.

Appl. model.

"Speed, in the universe, exceeding c (speed of light, i.e. almost 300,000 km/sec)" is impossible, because, so far, no speed is known, that, in nature, exceeds c. According to the laws of natural science, no body can move at a speed greater than c.

Impossible, therefore falsifiable. Immediately non-existent. Thanks to testing against natural law, this becomes clear.

(b) -- *Technical possibility.*

A concept is technically possible if there is a technique (instrument, means), which allows the idea to be tested.-

Appl. model.

The temperature in the core of the sun is, of course, physically possible (there is the possibility of testing it against natural law), but technically, to some extent, impossible: who, by what means, is going to make this measurement? the technical feasibility, which decides on the possibility, is not there.

It is evident that as techniques advance, so does technical review (verification/ falsification). - the process is the standard intake technical review.

2.A.(ii).-- *Transempirical possibility.*

'Transempirical' realities are either extra-natural or supernatural.

WDM 17 taught us, of this, the most essential thing.

a. H. Reichenbach gives as a term 'the cat as divine animal'. Certain ancient Egyptians 'worshipped' such a thing. The question arises : how does one test such a thing ? Purely logical is impossible, because 'the cat as divine animal' is no 'ens rationis' (no mere thought product); physical or physical-technical seems unfeasible (e.g. which process to apply?). Above all, 'the cat as divine animal' is transphysical: it goes beyond natural law-mathematics.

b. The Bible may give us a hint here.-- *Matt 2: 1/12* (*The magi worship Jesus*) involves a transempirical, transcending the "empirical" (understood as "the earthly"), verification.

WDM 273.
Listen, first, to the Biblical story.

"When Jesus was born at Bethlehem, in the days of King Herod, there came 'magoi' magicians, from the East. They said: -- "Where is the prince of the Jews, who was recently born? For we, in the East, have seen his star. We have, therefore, come to worship Him".

When King Herod heard about this, he felt a tremor that spread through all of Jerusalem. He then called together all the chief priests and scribes and asked them where exactly 'the Christ' was to be born. They answered :

"In Bethlehem of Judah. For the prophet (*Mik 5:1*) wrote what follows: "And thou, Bethlehem, land of Judah, art truly not the least among the chief places ('clans') of Judah. From thee, indeed, shall come forth a prince, who shall be the shepherd (*op.:* leader) of Israel, my people."

Thereupon Herod summoned the magi in secret and informed himself, from their lips, of the exact time at which the star had appeared to them. He sent them to Bethlehem, with the order: "Go and inquire carefully about the child. Once you have found it, report it to me; for then I will, in my turn, worship it".

After these words of the Prince, they set out.-- Behold: the star, which they had discovered in the East, went before them,--until, at the place where the child was, it stopped. At the sight of the star they were beside themselves with joy.-- They entered the shelter and saw the child, with his mother, Mary. They prostrated themselves on the ground, to worship the child.

Thereupon they opened their chests and offered it, from them, as our gift, gold, frankincense and myrrh.

After this, being warned in a dream not to seek Herod again, they departed, by another way, to their country."

Note -- 'Magos', magician, among the Medes, an ancient people, situated in what we now call Iran, around Ekbatana, their capital, means 'priestly interpreter of 'dreams' (which, in ancient language, might as well mean night dreams as 'visions')! This meaning also applied among the Ancient Persians, pretty much present-day Iran, and, later, among the Greeks.

WDM 274.
Ancient Israel also knew such figures (*Jer 39:13; Dan 2:48; 4:6; 5:11*).

This first meaning ran in tandem with two others:

(i) ***astrology,*** a supernatural ability (to be strictly distinguished from current astronomy), was, in the East, busily practiced, especially as a guide for the princes (the stars depict state policy in advance); the interpretation either of night dreams (at least those with supernatural bearing) or of ‘faces’ ran, therefore, easily into astrology;

(ii) ***magic,--*** word, which is poorly translated by us ‘magic’ (because ‘magic’ makes one think too much of all kinds of feats of strength), also ran together with this: it serves, after all, both the interpretation of ‘dreams’ and astrology (astrology).

As an aside, WDM 9vv. taught us the ancient concept of wisdom. Translating the term ‘magoi’ by ‘wise’ is therefore correct: the ‘mageia’, divination, was, indeed, at the time, one of the main types of general and specialized education,--as, especially from -200 onwards, also in Late Antiquity.

Note.-- We translate ‘magoi’ by ‘diviner’. This old Dutch word stands for the Greek ‘mantic’ (the art, indeed, the skill of extra-natural ‘seeing’). ‘Magos’ is ‘seer’.

There are - still are - people, sometimes scholars, who try to make the Adoration story of Mathteus ‘true’ by looking up, professionally, when precisely an astronomical phenomenon, scientifically verifiable, occurred, that corresponds to what the ‘magoi’ - as ‘stars’ - ‘saw’.

Such a thing is “meaningless” (the term, with which *La Bible de Jerusalem*, Paris, 1978, 1416, ad m, labels this type of explanation).

The “seeing” of a “magician(s)” is supernatural (thanks to what we, today, sometimes call a “clairvoyant”). This seeing - so the Greeks would have said - is of the mantic, divining type.

(i) One sees something, with pare normal ability;
(ii) the interpretation, which must always follow, forces one to dowsing, to and fro with the interpretive mind. So too did the ‘magoi’ of the time.

WDM 275.

Only now, after these explanations, can we set forth the structure of verification of the idea of the Sages.

(A).-- *The perception.*

Given: they 'see' (mantically) a star (i.e., an extra-natural point of light, reminiscent of a star), which they 'divinely' designate as "the star of the prince of the Jews (and, under understood, of the Gentiles,--which appears from their will to honor him)."

Asked: how can such a thing be tested?

(B).-- *The analysis (reductive reasoning).*

We split these into a lemma (assumption) and its 'analysis' (stricto sensu).

(B).i. -- *The regressive reduction* (= abduction, lemma).

This 'reductive' step, in reasoning, consists in the fact that the Magi assume that, somewhere, in the land of the Jews, 'something' (something real) corresponds to it. The 'seeing' of the 'star of the Prince of the Jews (and Heathens)' only becomes, meaningful, understandable, if there is something real corresponding to it.

(B).II.a.-- *the analysis: progressive reduction.* 'deductive step'.

From the lemma, that there must exist something real, which accounts for "the star," the Sages draw a deduction: "If somewhere, in the land of the Jews, a royal child was really born, then it is worthwhile to test this,-- by an experiment, viz.

"We set out for that country and make inquiries and investigations;---.The observation, viz. that we 'see' a star, can then, by new observations, be either confirmed (verified) or denied (belied, falsified)." - The 'progressive reduction' consists in deducing from the lemma i.e. sense of an experiment, a testing experiment.

(B) II.b.-- *The analysis: inductive (peirastic) reduction*.

They set out on their way. Arrive in Jerusalem.

a -- *Initial verification.*

The Old Testament writings of the Jewish prophets do, indeed, foresee the birth of a "prince", the shepherd of Israel: And with a precise indication of the place: "Bethlehem", something that can be tested.

b-- *Second verification.*

The mantic experience, the 'seeing' of a star of princes, repeats : "The star went out before them".

c -- *Third and very decisive verification*.

"They saw the child with its mother." Which means a threefold inductive testing of their idea

WDM 276.

Note.-- One compares this analysis with WDM 254/257 (especially the perception of "radiation" or aura), where "paranormal" (extra-natural) "phenomena" (term implying that something "real" is perceived, but in the modality of the extra-natural) are discussed.

Hans Reichenbach, a Neo-Positivist, should, at least in principle, agree with our "reductive reasoning" (WDM 2).

The outline reads as follows: "If all paranormal phenomena are transempirically verifiable (in the sense above), then e.g., the aura, radiation,-- the star of Bethlehem, etc., are not verifiable. Well, the star of Bethlehem was verifiable (affirmatively testable).

So -- in principle -- all extraterrestrial phenomena are testable, -- in a transempirical way". -'Transempirical' means:

(i) the observation, which provokes the lemma, is situated outside logic, mathematics,-- outside physical and technological law,

(ii) the verification, in principle, however, is situated in the logical-mathematical and/or physical-technical reality. After all: the re 'seeing' of the star of Bethlehem only works as a verification for those who are psychically gifted,--not for those who are situated in the purely logical-mathematical and/or empirical (physical and technical) world.

Because, however, the basic observation is purely paranormal, the evidential force of a transempirical verification is never that of the purely logical-mathematical and/or physical-technical verifications. Yet that evidential force is not-nothing but 'something' one of the many modalities (possibilities') of 'being', i.e. of reality. Which ontology presupposes.

Note **--** Now, from here, one understands why both occult (paranormal) and religious systems -- including, among others, biblical religion, with its 'miracles' (healings, incantations) and 'inspirations' -- must appeal to faith: the evidential force, reductive, of the miracles and inspirations ('inspiration') is, after all, trans-empirical,-- exceeding the 'secular' (earthly), with its logical-mathematical and/or empirical verification possibilities. Which does not imply that faith is not based on anything 'rational'. That 'rational' has the structure of transempirical reductive reasoning.

WDM 277.

2.B.-- *The "ideal" possibility*.

The logical-mathematical, the empirical (physical-legal, technically verifiable), the transempirical, these are already a few modalities - at least those "modalities" of antique-medieval ontology! - of "being" or "reality", which decide on the possible objectivity of our definitions (and, at the same time, of our concepts).-- But - especially, indeed, almost exclusively, in Platonism - there is another modality of "being" or "reality", namely the ideal.

1. WDM 50/51 (*Ideal and 'reality'*); 60 (*Ethical ideal*); 62 (Salisbury's 'thesis' or thesis, which boils down to an 'ideal'),-- they already taught us, ontologically, the concept of an 'ideal',-- and this as one of many modalities, 'possibilities', of 'reality'.

2. WDM 212 (*Akt der Ideierung*), ((Act of ideation)),taught us the Schelerian interpretation of the 'de-realization' (distancing oneself from the naively-massively perceived reality): man, as spirit, does not simply merge into the given, -- the 'immediate', (to speak with a Hegel and, also, a Kierkegaard); he transcends, thanks to ideation (WDM 258 (ideative conceptual realism); 262 (the 'light' of the idea), the immediately (understand : unreasoned) given realities,-- thanks to reasoning,-- 'mediocrity' (would say Hegel and, also, Kierkegaard).

Our mind, as spirit, i.e. intellect and reason, exceeds, thanks to the detached view, all that comes through in our actual experiences.

3. Here situate,--not the values -- without -- more (WDM 74/81) but the higher values (WDM 79: ideas, ideals, values, but especially the higher, the anagogical or elevating values; WDM 211(method. analysis of a choice of values)).

Higher, 'anagogical' values are, in fact, mostly, unrealized, often unrealizable ideals,--which, notwithstanding their 'non-operational character', are nevertheless, mostly, sensed as normative, i.e. regulating our mental behavior somewhere.

Appl. model.

A brand new teacher starts, often, with many "ideals" (partly taught at the Normal School). but, after a few years, that same teacher seems, more than once, "jaded," as one sometimes hears it said.

What difference in dynamics of teaching between an 'idealist' and a 'jaded' one! Ideals 'work'!

WDM 278.

The testing of ideals.

Ideals are concepts, yes, happening, Platonic ideas.

(A).-- ***The power idea, according to Alfred Fouillée.***

In his *L' avenir de la métaphysique, fondée sur l' experience* (The future of metaphysics, based on experience), (1889), 273s., he gives us an example of this.

a.-- The faith of Christopher Columbus (1450/1506), who, on October 12, 1492, discovered the island of Guanahani, consisted of notions and feelings,--not of acts of will, which confirmed something. His belief was an "idée dominatrice" (a thought controlling him), an "idée force" (an idea of power).-- Columbus's will itself was only the inner extension of that power, just as his sailing across the sea was the externalization of it.

b. This thought was expressed with every wave, which his ship braved. It externalized on the shore of Guanahani, where he stepped ashore.

c. The wake (= trace) of the ship has, since 1492, disappeared from our view.

But the wake of the idea, which he cherished, namely to discover the Indies somewhere, in an abbreviated way, is enduring: whenever, now and in the future, a ship sets sail for America, this act re-embodies Columbus' idea.

Behold, abridged, but using his example, how Fouillée interprets Columbus' ideal.

a.-- Initially it was in itself nothing more than a thought ('idea'). But all his soul was 'animated' by that idea.

b.-- Since the result, after verification by the discovery of America, that idea has been defined "business-like. More than that, it changed our small-western world.

(B).-- ***The method of John of Salisbury***.

WDM 62 we saw that John of Salisbury (a Humanist in the full Middle Ages: he knew Cicero, Virgil, Ovid, Juvenalis; as a member of the School of Chartres, he was a Christian Platonist, but also read the Stoic Seneca) postulated a duality, 'thesis/hypothesis;. The 'thesis' can be translated by our current term 'ideal'; the 'hypothesis' by the term 'totality of circumstances' (= situation, context of action). Cfr. WDM 60.

We will now apply this method to an ideal, reverence for life.

WDM 279.

1.-- *The "thesis"* (the ideal).

O. Willmann, Abriss, 130, says that the Decalogue (= Ten Commandments)

a. divine authority (inwardly expressed, articulated, and liturgically lived out),

b. parental authority (fourth commandment) and

c. the godly ordering of society

b.1. in acts of reverence for the person (fifth), the house (sixth) and property (seventh) externalized,

b.2. in words (eighth) effected,

b.3. in mindful thought (ninth and tenth) as ideals paramount.

As an aside, one finds this structure in all Archaic communities. Do we, for a moment, dwell on "Don't kill; don't give an annoyance".

2.a.-- *Initial hypohesis* (life context).

We call this situation "the problem-free reverence for life.

Jan is an ecologist: 'life' is to him a main value. Plants, animals, people,-- they are life and the habitat ('environment') is one of his main concerns. That is why he is a protector of nature, why he participates in anti-nuclear weapons parades; yes, also, as a protector of all life, including the unborn, he is against abortion.

He is married. Goes to work with the regularity of a clock - where, very hygienic, he fights to keep the work environment healthy - goes, occasionally, to meetings of 'environmentalists'. He is also a pacifist: war is killing life! "Thou shalt not kill".

2.b.-- *Second hypothesis (life context).*

We call this situation "the compromised respect for life. - Jan lives on the edge of the metropolis. In the winter he comes home in the evening, along previously deserted streets.

Recently he experienced the situation of his life: 'Your money or your life'. A man stands before him, totally unexpected. Jan is exactly not a lamb: he grabs himself, first, the aggressor at the throat. A struggle ensues: "I do not remember very precisely what happened. One idea flashed through my mind: 'If this guy has only so much respect for my property and life, why should he have the right to demand from me respect for his property and life?' I struggled. He struggled even more. I made it: he remained as lifeless".

John was "in a state (hypothesis) of lawful self-defense": he was allowed (ethical modality) to kill, if need be.

WDM 280.

Conclusion.

a. Jan is caught up in "the spiral of violence.

(i) the one who attacked him used the active-aggressive force;

(ii) he himself, in order to secure his life, lapsed quasi-spontaneously into violence,-- counter-violence, then.-- But Jan did not, by any means, let his ideal 'Thou shalt not kill' slip. He found himself, only, in a situation, in which his ideal became difficult to interpret.

b. This is evident, by comparison. Take a rent killer: he kills as a service to another, who compensates him for it. The rent killer harbors the "demonic principle" (WDM 81; 173v.; 178) he "does not fear God and does not bother with men. The rent killer also harbors an ideal (WDM 47: the lust principle,-- hedonism; 75: hedonistic values).

This ideal is:

(i) truly a power idea,

(ii) but a questionable one. The rent killer is "immoral," immoral. Jan is not. He upholds the 'thesis'. The rent killer denies the 'thesis', which is the idea 'reverence for life'.

c. More difficult is the comparison with the terrorist.

(i) He too, for Anarchist reasons, kills. He kills selflessly, according to the Anarchic principle of "Be Free.

(ii) The Anarchist, however, holds - in his turn - an ideal, viz. the liberation of mankind from an established order, which he writes off as violent: it hinders, in principle, by its authoritarian structures' (e.g. in education), the absolute freedom of the Anarchic man, who - according to a term of Fr. Nietzsche - thinks and acts 'mis.archisch' (authority despising).

Conclusion.

a. There is truth in this: our society has 'authoritarian' and 'violent' traits. The "liberation" from them is an act of conscience.

b. But whether acts of terrorism - attacks, for example - are the - equally conscientious - means to that end is highly questionable. - Perhaps as 'legitimate self-defense', but in what verifiable sense, in terrorist acts, is there legitimate self-defense of 'the oppressed'? Is not the terrorist act rather a 'violence' in response to 'violence'? Violence then without sufficient reason or ground (WDM 7)?

A "hypothesis" (situation) justifies a lot if need be. To does it also justify acts of terror?

WDM 281,

Summary.

1. Ideals are "ideas" (concepts, "entia rationis", thoughts), which have as a modality of "being" "to exist only in our minds. Ideals are, further, 'ideas of power', i.e. concepts, which 'move' the mind (and at once the will), serve as motive,-- 'drive' the mind (as well as the will), serve as motive: in this sense they belong to axiology (doctrine of value).

In order to define them, they should be analyzed purely logically, first,--then, axiologically: the sense of value, whether or not separate from state of mind, reaction of will or pursuit of goal (WDM 76), must be included in the analysis of concepts.

2. - The question is: What possibilities does an ideal hold? In other words: to what world-in-the-making (WDM 227) does an ideal lead, when it is transferred by our acts, guided by that ideal, into another modality of 'being', namely the world which we, by our actions, found? And for which we, as conscientious beings, are co-responsible?

a. Such is the pragmatist (W. James), pragmaticistish (Peirce) point of view : what kind of result causes our - ideally led - action? For by acting upon them we situate an axiological concept ('ideal') in the totality of 'being' or reality. Only then do we get a full insight into its value.

b. More to the point, by acting upon it we situate an ideal in the ethical sphere (moral-philosophical standpoint).

Looking back on our brief analysis:

a. Columbus discovers a new continent and basically founds "value," ethical value happening.

b.1. John, our God-believing ecologist, establishes ethical value even as he defends his individual life, against aggression, in state of lawful self-defense, with killing.

b.2. The rent-a-cop also harbors an "ideal," a hedonistic-utilistic ideal,--which, ethically, involves grave reservations.

b.3. The Anarchist terrorist also has an 'ideal', which involves self-serving killing in the service of the 'liberation of the oppressed';--which is also not free from heavy reservations, ethically speaking.

Conclusion.

Viewed as a guide to deeds, ideals are 'lemmata', working hypotheses, which must stand the test of fact. Consequence: the reductive method (WDM 2; 9; 126;127 (experimental variant); 135v.; 224; 276) is the appropriate method.

WDM 282.

The pythagorean-platonic theory of concepts, according to J. Kepler.

(1) ***By way of introduction, the following.***

a. ***Platonic. Ideocentrism.***

For a man like Platon of Athens (-427/-347), what is "divine" (in the sense of ánd supernatural ánd, above all, extra-natural) is opposed to all that is visible and tangible, all that is human, all that is mortal. Well, in his eyes ideas are the full degree of divinity. We call such a system of thought "theological ideocentrism.

It should be noted that 'mortal' is perhaps the strongest opposition to 'divine' and, immediately, ideal. As, after all, the changing things, from our sense experiences, make a multitude of 'zoë', living beings, -- of 'thremmata', descendants, into a 'world' (WDM 228), so also, in an analogous way, does the collection and system of knowing and thinking contents of thought (WDM 270) include a plurality of 'noèta zoa', animalia intelligibilia, ideal life forms. So that we rightly say, with Platon, that the ideas, as he conceived them, are somewhere divine, living 'beings', which cause the being forms of things, in and around us.

b.-- ***Theocentric idealism***.

'Idealism' - in the strictly Platonic or Platonizing sense - is the putting forward of ideas as the origin of the forms of being, in and around us. 'Theocentric' is, here, thought of the supreme being, either in the Pagan sense (Oermonotheism; cf. Lang and Schmidt) or in the strictly supernatural-Biblical sense (Yahweh; Trinity).

The first, who, as a philosopher, advocated such theocentric theory of ideas was Albinos of Smurna (100/175), who wrote a systematic exposition of Platonism.

(2) ***In that great tradition is situated Johannes Kepler*** (1571/1630).

As works are, of his, known: 1596: *Prodromus seu mysterium cosmographicum*,-- especially his *Harmonices mundi libri* v (1629).

Isaac Newton (1642/1727), famous for his theory of gravity, says he was able to formulate his theory thanks to the fact that "two giants," J.Kepler and Galileo Galilei (1564/1642), "lifted him up on their shoulders. Which includes no small praise to Keplers' address.

WDM 283.

a. Well, Kepler was a faithful and devout Protestant. Which did not prevent - in passing - his being treated with the bitterest hostility by the narrow-minded "Bible theology" of his Protestant peers, who could not assimilate the heliocentrism he adopted from the Catholic Polish Canon *Coppernicus* (1473/1543; *De revolutionibus orbium caelestium* (1543)).

b. With Coppernicus, Tycho Brahe (1546/1601) was his great teacher,--especially on observation (the basis of the natural science reductive method; WDM 272. physical verification) and calculation.

As an aside, observation with calculation gives us the exact method.

Appl. model.

"Since the day when, thanks to Divine goodness - according to Kepler himself - we have at our disposal such an accurate observer (as Brahe), to whom an error of eight minutes simply cannot happen, we must **(i)** gratefully acknowledge this error of calculation, **(ii)** but, since we must incorporate these eight minutes, in one way or another, into our conceptions (*note:* concerning the orbit of the planet Mars), they must contribute to re-establishing the whole structure of thought which is our current astronomy."

We give this extract, which *O. Willmann, Gesch. d. Idealismus*, III (*Der Idealismus der Neuzeit*), Braunschweig, 1907-2, 66, quotes, in order to make one feel what a Pythagorean and a Platonic is, actually. This, in view of the fact that, concerning this, enormous misunderstandings are in circulation.

From the review of Tycho Brahe's observations and calculations, Kepler's famous laws of planetary orbits came into being.

K 1.-- Each planetary orbit is an ellipse, with, in one of the foci, the sun.-

K 2.-- The line, connecting a planet with the sun, passes through, in equal intervals of time, equal areas.

Consequence: when, for example, the planet Earth, on every second January, is in its perihelion (its closest point to the sun), its speed is greatest.

K 3.-- For any pair of planets, the squares of the periods are proportional to the third power of the semimajor axes of their orbits.

Consequence: the more distant from the sun, the longer the orbital time. (*S. Mitton, ed., Cambridge Encyclopedia of Astronomy*, Bussum, 1978,159).

WDM 284.

Kepler's Pythagorean Platonism.

His contemporaries labeled the teachings of the Polish canon Coppernicus as "doctrine pythagorica" (Pythagorean doctrine). Kepler felt that, regarding Pythagoreanism, he had not yet gone far enough.

A. WDM 13v. taught us the basic idea:

(i) the material world, in and around us, exhibits harmony (happy merging);

(ii) this harmony, in the substance, one discovers by there

(a) verify the geometric (space mathematical) form (WDM 87) of,

(b) as well as the number mathematical data (WDM 133). But this is only the static, synchronic side. The dynamic, diachronic side of the harmony of material things (including the heavenly bodies) is discovered through a kind of practice of choreia, dance, music and song (song, poem).

Those who proceed in this way discover the soul of material things, i.e., the (life) principle (WDM 7: archè), which governs them.

B. -- ***Kepler engages, knowingly, in that type of thinking***.

But he reestablishes it thanks to the beginning of Modern science. We summarize his teachings in this regard.

1.-- '***Ubi materia, ibi geometria'*.**

'Where there is matter, there is geometry'. - The mathematics of number and space - because 'geometria' includes the two

(i) in itself, engages in thought activities (WDM 270;--281v.),

(ii) but in the sensible things, in and around us, it grasps the being-form (WDM 28: forma), -- in the Latin language of the Scholastics preceding Kepler: 'causa formalis', the formal side (factor, constituent of beings) of the material things of the cosmos. That form of being is the knowable, the thinkable, the intelligible, of it.

After all:

(a) what gives things their being form (their distinctness from the rest), **(b)** that makes up the 'rational' ('knowable') of them.

2.-- ***The noble yoke*** (WDM 66/68), according to Kepler.

'Noble yoke'--a Platonic expression--means that, on the one hand, our soul (with its spirit, i.e., reason and intellect) and, on the other, the cosmos surrounding us are in tune with each other (WDM 154: mutual relation).

For example, the mathematical form of the universe, 'figura caeli', consists of proportions which testify to harmony. In this it is immediately apparent that spirit (reason and intelligence) is at work.

b.-- In order to be knowable, a 'subiectum consimile', a subject attuned to it, must correspond to it, which - somewhere from itself - shows understanding of the luminous harmony (especially numerically and spatially).

WDM 285

Somewhere our soul must be light, harmony, number and configuration. In other words, the cosmos, the well-ordered universe or 'being', and our soul are 'hermosmena', things, in whose being form harmony is built in.

a. -- The cosmos is like that, insofar as it, although material, is nevertheless structured e.g. numerically and mathematically in space. Proof of this: Kepler's laws, for example, which, with incredibly simple mathematical-rational formulas, make the solar system transparent to our minds.

b.- Our soul is, likewise, such, inasmuch as it carries within it numerical and spatial mathematical thoughts and, in mathematics, systematically elaborates them and, in retrospect, finds them applicable to the cosmos.

3.-- ***Our soul, intermediate between cosmos and deity***.

Our soul is for Kepler -- who, in this, is Christian Platonist, 'imago Dei', image of God: it takes part (participation) in God's mind, with his models of creation. It is because of this that our thoughts (of logic and mathematics or music theory) are 'zotikos', like germs of life, active in our minds,--so that they grasp, in the visible and tangible, material data, the structures of beings. The light of God's spirit is built into our soul, by its Creator, in such a way that with Him, as it were, it "grasps" the essence of things (WDM 217; 263).

4.--*and the cosmos and our soul, participation in God's ideas.*

The knowable and thinkable forms of being of things, both within us and outside us, are located "noëros," in the manner of a thought, in God's mind.

1. When God, now, creates, He builds into, the creation, these creature forms or divine ideas, which served Him as models.

In other words, what Kepler, formulated in his cosmic laws (WDM 272; 263), showpiece of our physical science, finds in things, that existed, from all eternity, already in God's mind.

2. When God created our souls, He immediately planted an image and participation of His creation models in our souls. This soul science is therefore a noölogy, a doctrine concerning the 'nous', intellectus, spirit (intellect and reason, as well as mind), anagogic, upward, towards God. Compare with WDM 107 (Augustine); 194 (Gogol).

WDM 286.

The Scholastic tripartite interpretation of the form of being.

Bibl. st.:

-- *O. Willmann, Die wichtigsten philosophischen Fachausdrücke in historischer Anordnung*, Kempten/ München, 1909, 67/69 (Nominalismus, Realismus);

-- *id., Gesch. d. Id.,* II (*Der Idealismus der Kirchenväter und der Realismus der Scholastiker*), ((The idealism of the church fathers and the realism of the scholastics)), Braunschweig, 1907-2, 350/362 (*Die Klärung der realistischen Grundanschauung im Streite des Nominalismus und Realismus*), (The clarification of the basic realist view in the dispute of nominalism and realism). 488/506 (*Die Vereinigung der idealen Prinzipien bei Thomas*), (The Unification of Ideal Principles in Thomas).

"The course of the struggle between Nominalism and Realisms, in the Christian Middle Ages bears a surprising resemblance to the same struggle, in antiquity." (*O. Willmann, Gesch*., II, 352).

That "surprising resemblance" continues to this day (WDM 267). This proves that we, with this, are facing a ground insight.

A.-- Unhappily, in Antiquity, Middle Ages, Contemporary times, there was confusion between being-forms and 'universals' (WDM 106.2) : as we saw, WDM 242, there are, according to extent, i.e., according to that to which the being-forms (ideas, concepts) refer, singular, (private), universal and transcendental being-forms.

A being-form, 'form' for short, is that by which something is distinguishable from the whole 'rest of reality' (WDM 28). In themselves, being-forms are "thought-forms" (WDM 270), whether they are singular, general, or, even, all-encompassing.

B.-- The Scholastics distinguished three basic modalities (WDM. 41).

(i).-- ***The essence forms for the things***

(in and around us) are, in the Pythagorean-Platonic-Christian interpretation, as with a Kepler, the ideas (conceptions, models) of God, which He, in creating, brought about in the created realities,--as e.g. the orbits of the planets around its star, the sun. They are also called, e.g. by S. Augustine (WDM 107), 'archai', principia, principles (WDM 7l), because they govern, as models of knowledge, thought and, above all, action, the cosmos of creation.-- In Middle Ages Latin: 'formae ante rem' (forms of beings for things).

(ii).-- ***The essence forms in things***

('formae in re) are the knowing, thinking and acting models, as far as - by business definition (WDM 252) - discoverable in the data under study itself.

WDM 287.

(iii).-- *the being forms after the things*

('formae post rem') are the notions, 'ideas; concepts, which we, together with the terms associated with them (WDM 241), form, 'conceive', 'design', within our mind ('consciousness'), intramental thus. As terms they are fixed, in a language context, -- often first in a nominal, later several times in a business way, in a definition.

Nominalism, Conceptualisms.

WDM 258; 267;-- there we already learned about the three basic forms of conceptual ontology. Only now is this discussion ready: essence, concepts, ideas, i.e., contents of knowledge and of thought, with which one works (extramentally, if need be), are - for the Nominalist, in principle at least (for there are variants) - only concepts ('conceptualism') or, even, terms ('terminism', i.e., when the Nominalist emphasizes the linguistic-wordly aspect); essence forms are, for the Abstractionist (e.g., the Aristotelian tradition), not only concepts and terms, after things, but also thinkable. the Aristotelian tradition), not only concepts and terms, after things, but also models of thought and knowledge in those same things, which through them, inwardly, in virtue of Being-structure, cybernetically, governed by it; forms of beings, for a Pythagorean like Kepler, a Platonist - Pagan or Christian, are not only concepts (intramental) and terms (in our language use),-- neither are they only structures in the object-defined given, they are, moreover, starting from the Supreme Being, who orders (Pagan) or creates (Biblical), God's models of thought.-- In Scholasticism, figures of the three types of interpretation were known.

Light metaphysics (including illuminati doctrine).

In the Pythagorean-Platonic interpretations, creature forms are light, i.e.

1/ they illuminate, in our concepts and terms, the things, to which these concepts and terms refer;

2/ in the data itself, extramental, they are a kind of 'light' i.e. a built-in illumination, through which one can see clearly in the very structure of that data, seen from a creating (ordering) Supreme Being, they are illuminating 'from on high' (WDM 107; 194).

Because God, in creating our souls, builds in ("collapses" one also says) these forms of being, into our souls (WDM 285), we, in our spirit, become enlightened (= illuminati),--which is already coming through gradually in Platonism.

WDM 288.

Notes **--** I. Kant (724/1804; top figure of the German Aufklärung), who denounced the one-sidednesses and of Anglo-Saxon Empiricism (WDM 18), which "sensifed" the concepts (reduced them to sense impressions), ánd of Leibnizian Intellectualism, which, in Descartes' style, "intellectuated" the phenomena (reduced them to mere or at least phenomenon-foreign "conceptions"), stated: "Gedanken ohne Inhalt sind leer; Anschauungen ohne Begriffe sind blind" (freely translated: "Ideas without sensory applications (appl. models) are 'empty'; experiences without concepts are 'blind'").-- With this, this Enlightened Rationalist formulated a rest of light metaphysics.

Note **--** Ethical inferences.

The discussion around the forms of being can seem merely "theoretical" (in the sense of "impractical," "non-committal," "without consequences for life"). Yet this is not so.

(A).-- "Just as truth, insofar as known by the natural light of reason or by Biblical revelation, springs from one and the same Divine truth and wisdom, so also the natural law and the moral law based on Biblical revelation: both ethical 'laws' (= systems of behavior) spring from the 'lex aeterna', (= the so-called eternal (= Divine) law). -- practically: to the plan underlying the divine universe government". (*O. Willmann, Gesch. d. Id*., II, 504).

Note **--** 'Natural Law' means, in an ethical context, the totality of all the rules of the game ('laws') or norms regulating our behavior, as far as mankind can know them on the basis of purely extra-biblical (Pagan) insights.

(B) -- Take, what we, WDM 279, saw,-- the Decalogue.

(i) Purely Nominalistically, the Decalogue is a set of either concepts (conceptualism) or terms (terminism), the business definition of which always remains dubious.

(ii) Abstractionistically, the Ten Commandments are the practical summary, in very folksy, simplifying terms of the business definitions, drawn from the moral analyses of facts.

(iii) Ideologically, the Decalogue and a set of concepts, resp. terms, drawn from the analyses of the facts of conscience, but, in the last instance, supported by a God-given order, for those facts and their analyses.-- Which makes a great difference.

WDM 289.

Individuological (= idiographic) conceptualization.

We saw (WDM 241) that the name of the logic, which we briefly explain, is "formal logic.

1. G. *Jacoby, Die Ansprüche der Logistiker auf die Logik und ihre Geschichtsschreibung*, Stuttgart, 1962, 106/118, explains how and why traditional logic influenced by the Eleates and Aristotle (Organon) is called "formal.

a. As a noun 'forma' (WDM 28), form of being, one of the many terms of significance for the technical language of logic, it was introduced by Marcus Tullius Cicero (-106/-43), the Roman rhetor and politician, as a translation of Platon's 'eidos' (synonym of 'idea'), view of being, form of being. Platon understood by this, first of all, the general (universal).

***Note* --** Cicero, concerned about technical terms, translated 'eidos' or 'idea' by 'forma', only when it concerned logical matters; if it was a question of the form of being present in things themselves, he preferred the term 'species' (pronounced 'spe.ci.es'), which we still find in our 'specific'. Or in 'special'..

b. The logically understood "forma" became -- according to Jacoby -- known in the West,-- about the great Roman rhetor Marcus Fabius Quintilianus (35/96), as well as about the greatest Church Father of the West, St. Aurelius Augustine (354/ 430; WDM 107).

2. As an adjective 'formalis' (formal), the term seems to have been introduced by Anicius Severinus Boethius (pronounced Bo.e.thi.us), (480/525; the minister of Theodoric, the prince of the East Goths).

From the XIII- d'century Scholastic, at least, logic is called "logic formalis" ("formal logic"), i.e., the logic of universals or general concepts.

3. Our more recent term 'formalized' (WDM 236: logistic) delineates the mathematical' ('calculating') logic from the conversational logic, which is called 'formal' logic.-- -- Which does not prevent those, who engage in 'calculus', from calling their labor also, shortening, 'formal'. And designate the 'logistics' with the shortening term 'logic'.

Again: the universality debate.

WDM 267; 270; 286v.;-- they drew attention to the 'being-form' aspect of the universals,-- in which they, with the transcendental and singular (idiographic, individuological) notions, go together. -- But there is a controversial distinction.

WDM 290.

Appl. model.

Instead of giving an outline of the universals discussion, starting from Platon and Sofistics (Conceptual Realism/ Conceptual Nominalism), we will, very briefly, dwell on one of the many current remnants.

(1) Geoffrey James Warnock (1923/1995), a Berkeley specialist and, above all, a member of Analytic (= Language) philosophy, once, as an Analytic, took on universals, this time as universals,--this, in the long nominalist tradition, which holds that all that is extramental reality is radically individual and in no way, in itself, general.

(2) *B. Russell* (1872/1970), in a journal article *Logic and ontology* (1957), countered this Nominalist.

(1) 'Philosophy' is a lot of measurement than language analysis, e.g., using dictionaries. - a specialty of Language Analysts.

(2) Russell ridicules Warnock as a Nominalist as follows.-- "Long ago there was a tribe, which lived on the bank of a river. Some claim that that river was called 'Isis' and the tribesmen 'Isidians.' But, perhaps, that is only a later accretion of the original legend.-- the language of the tribe knew the words 'roach', 'trout', 'perch' and 'pike'. but not the word 'fish'. A group of Isidians, who had wandered down the river from their home town or further than usual, caught there what we call a 'salmon'.-- A fierce debate ensued, immediately. Some claimed it was a kind of 'pike'. Others that it was 'something dark and terrible' and, immediately, that anyone who mentioned it should be ejected from the vote.

At that moment a stranger appeared on the banks of another river, despised by the Isidians. "In our language - he spoke - we have the word 'fish', which applies to roaches as well as to trout, to perch as well as to pike. And likewise to the animal that is causing so much controversy here"!

The Isidians were indignant: "What is the use - they said - of such newfangled words? For everything law we, in the river, catch, we have -- in our language -- a word; for it is always either a roach or a trout or a perch or a pike. -- Thou mayest argue against this position what is said to have happened, a short time ago, in a lower part of our sacred river.

WDM 291,

But -- in our opinion -- language economy requires a law, which forbids mentioning this event.-- Therefore, we consider your word ‘fish’ to be a sample of worthless pedantry (= school fiddling).”

The Nominalist, i.e., appeals to the “economy” (economy) of terms, to reason away “superfluous” things as general terms. It is among others Petrus Aureolus (+1322), who claims, out of considerations of economy: “The principles for explaining something should be as few in number as possible”. People: “If it can be done with fewer terms, why do it with more?”.

a. Russell shows, humorously, in this philosophical fable that this economy (saving) is not without its problems after all.

Bibl. st.: *R.F. Beerling/ B. Delfgaauw, introd. Philosophical writings* (*Rudolf Eucken, Henri Bergson, Bertrand Russell*), Hasselt, 1963, 301).

b. We saw that the adoption of universal (juxtaposed to the private) concepts (‘terms’) accepted by the isidians (= nominalists) does

(i). a matter of summative induction (WDM 126) is : “If roach, trout, perch, pike each exhibit the trait k (‘fish’),--each separately as a species (= private set), then k (‘fish’) is, immediately, verified for the ‘summa’, sum (= totality) of species;

In short: if all (species) separately, then all together.

(ii). Furthermore, it is a matter of business definition of course (WDM 252): induction, one by one, verifies and defines the idea ‘fish’ as a general trait.

In passing: instead of the enumeration - Nominalistic - ‘and roach and trout and perch and pike’ it is more economical (word-saving) to say, with the Conceptualists, ‘fish’. The term ‘thought economy’ or ‘word economy’ can have more than one interpretation!

a.-- ***The individuology or ideography.***

Reread WDM 242 (the singular, individual, fused idea). Already there we gave, in the person of Karoline von Günderode one applicative model.

The conceptual content.

This one means entirely the singular (WDM 226; 242).

The scope of understanding.

This one refers to all specimens of the singular (WDM 226; 242): precisely one specimen is possible. Genus and species (WDM 245) are non-existent

WDM 292.

Bibl. st.:

-- *J.-Claude Piguet, La connaissance de l'individuel et la logigue du réalisme*, (The knowledge of the individual and the logic of realism,), Neuchatel, 1975;

-- *D. Vernant, Introduction à la philosophie de la logique*, Bruxelles, 1986, 80/85 (L' élimination des termes singuliers).

-- *V.W. Quine, Philosophie de la logique* (// *Philosophy of Logic*, Prentice Hall, 1970), Paris, 1975, 43. - cited by Vernant, o.c., 81, shows us to what lengths a formal, indeed formalized, fad can go.

(1) The singular term 'Socrates' can be replaced by 'singular descriptions'. Thus e.g. 'The teacher of Platon', (which Socrates was). So also e.g. 'The Athenian thinker, who drank the poison cup' (Socrates, condemned, was compelled to drink the poison cup).

(2) The same grammatical proper name ' Socrates' can, according to Quine, the logistician, also - yes, better - be replaced by an artificial said (verb form, invented with formalizing intentions).

a. For example, Quine proposes to replace the term 'Socrates' with 'the object that socratises'. This verb 'Socrates' applies, strictly speaking, only to Socrates. It does not mean 'to think in somewhat Socratic style of thought' (which is often used as a verb,-- e.g., of Platon), but 'to be like Socrates.

b. " Thus, with Quine, one can rewrite the sentence 'Socrates is wise' as 'There exists precisely one x such that x **(i)** socratises and **(ii)** is wise.' This is then called 'verbalization' of the grammatical proper name.

'Socratizing' is then a formal say : universal term valid for precisely one object, the historically-factual Socrates. Thus Quine establishes a logical proper name.

Ejection.

Quine, as a Nominalist, starts from an economy of terms : if, even logistically, for every grammatical proper name, we have to found a verb that 'verbalizes' that proper name (for that is what it is), then we will have to multiply - and uneconomically - the number of termini technicians, as a logical means of indication for logical proper names! Wouldn't it be more 'economical' to stick to 'singular descriptions'?

Memory loss.

Henri Bergson (1859/1941; Spiritualist thinker), in his *Matière et Mémoire* (*Essai sur les relations du corps à l' esprit*) 1896, pointed out that amnesia is an ordered process: proper names are forgotten before species names; then quality words weaken; finally one forgets the verbs, which express imitable acts.

WDM 293.

a. Which means that the grammatical classifications contain more than word knowledge. It is as if the singular understanding makes up the top of a pyramid, which, in the amnesia, is being dismantled.

b. This is reminiscent of *K. Bertels/ D. Nauta, Introduction to the Model Concept,* Bussum, 1969, 93, where - in the context of formalized logic - it is said of:

(i) the concept of an individual, called a "constant," and

(ii) called the concept of "random individual" variable.

'a' designates a single individual value; 'x' - in ontological language 'something' (creature form), which, for the time being, is not specified' - designates any individual - 'a', 'b', 'c', etc. - denotes.

In the process of amnesia, the human mind decays from the higher situated (and more difficult) stage of singular concepts to a lower situated stage, namely that of "variables" (any data no longer singularized).

Briefly : from 'a' (constant) to 'x' (variable).

The rare (exceptional) is not the one-off.

Bibl. st.:

-- *F. C. Barlett, Exercises in Logic*, London, 1913.

W. Stanley Jevons (1835/1882; English logistician) lists eight classes.

1. *The merely asserted*, imagined (fictitious) 'exceptions' or rarities.-- These are 'entia rationis' (thought things) without verification.

2. *The apparent* but, in fact (upon review), corresponding to known laws are "exceptions": what, at first glance, seems "exceptional" turns out, upon closer inspection, to be confirmation of a general rule.

3. *The really rare-noteworthy*, even unique (= one-time) - facts, yet which are not inconsistent with the general laws of nature.

Appl. model.

In *Science et Vie*, 731 (1978: août), they talk about the halobate ("sea bug"). There is at least one marine insect. It is estimated that the total weight of insects spread over the planet earth is twelve times the weight of mankind: "Where there are about 800,000 species of insects, there is just one that has adapted itself to the living environment that is the sea". (1.c.).

WDM 294.

Indeed, seafarers have encountered the halobate hundreds of kilometers from the coast: they see a miniature skater -- it reminds one of Gezelle's 'Schrijverke' (halobate), -- gliding over the sea waves at about two to three kilometers per hour -- much faster than its freshwater counterparts. The reason why the halobate is not seen on land is that it is unwinged. It feeds on plankton, small fish and even jellyfish, which it sucks out from somewhere. It lays its eggs on everything that floats: a group of seaweeds, the skeleton of a dead creature.

Lanna Cheng, an entomologist (insectologist) at the well-known Scripps Institution of Oceanography, at La Jolla (California), dug in, several years ago, to find out the reason, which made this rare, indeed, so far unique, adaptation to the sea possible.

4.-- ***The non-normal exceptions***, which - according to Jevons - can be explained by the general working of the laws, but because of scale or deviation require a hitherto unknown 'paradigm' (model of explanation).-- Think e.g. of the paranormal processes (WDM 254/257; 272).-- Think also of what are called 'monsters' (strongly deviated individuals).

5.-- *The* ***accidental exceptions:*** they are the result of a confluence of circumstances, which, as such, are rare.

For example, a Swiss man in Oudenaarde was buying a bottle of perfume in a store where the saleswoman, involved in a conversation, had - since the liberation - become friends with a Scottish officer who was staying there the night and whose daughter had just married the son of the Swiss man's employer, who was employed by his patron in Oudenaarde. Everything became clear when the lady showed the marriage certificate, which had been sent from Scotland, and checked the names and address together with her client.

6.-- The really new and for the time being unexplained exceptions, which necessitate the introduction of e.g. new laws. Think of the deviation of the rays of light, in the vicinity of a star,--which led Einstein, among others, to the idea of 'curved space' (around a body, e.g. because of the force of gravity or manifestation in it, space is a kind of force field, which causes a ray of light to deviate from its straight course).

At first this was inexplicable,--at least from the previous stage of physics, which, by such determinations, is forced to evolve.

WDM 295,

7.-- *The limiting ('limitative') exceptions*: the domain of application of a known natural law is less general than the general law.

Consider the Euklidian geometry, which is only one type of geometry, encompassed by the more general geometry, which has more than three dimensions. Seen from the more general geometry, the Euklidian is, under that point of view, an "exception," - a limiting one then.

8.-- The truly exceptional facts:

They force natural science to undergo a thorough revision.-- There is degree difference with what goes before.

Originality.

Since especially the days of Romanticism, especially (second part XVIIIth e.), in order to correspond to the Romantic ideal, among others, one has to be "original" or, as one says since the Anarchist education, "creative". This includes two variants:

(i) either renews the old, traditional, "established";

(ii) either founds something new, which, until now, was unknown.

The stakes are the new, -- "if only it were different" (WDM 91: differentism; 94: variology; 156: differential comparison). And different from what tradition or any fellow achieved.

In hermeneutical terms : one places a very great emphasis on sense-making (WDM 218),--not so much or even on sense-conception.-- Socially, either the individual (Liberalism, Libertarianism) or the small group (Anarchism) prevails.

Appl. model.

Jan Botermans, An utter uniqueness to All in: *Spectator* (Ghent) 05.11.1983, 39.

"It's getting tedious, but I have to use a superlative again: Woody Allen's 'Zelig' is utterly unique (The vast majority (in terms of film offerings) is flat commercial junk, with, in between, the occasional standout and a rare highlight.-- 'Zelig' is, therefore, unique. And a huge success in the United States.

One hears the terms in which this art criticism is articulated. 'Outlier', 'rare', 'unique'.

WDM 296.

The definition of the rare.

Saying that ‘Zelig’ is a ‘phenomenon’ (in the sense of ‘exceptionally successful’ phenomenon) is one thing. Saying how ‘Zelig’ is unique is something else. Are we listening to Botermans:

“At its base a stroke of genius: although the character never existed and, even, as a striking character tendency, eschews and flees all demonstrative individuality, nevertheless a character is brought to life and his authenticity (*note:* the fact that he really existed) and existence is ‘proved’ by all kinds of means, peculiar to the art of film.

Rev. -- ‘What’s special about that? Surely feature characters are always figments of your imagination, unless it’s a biography!

Answer.-- Then that’s just it! ‘Zelig’ is a (false) biography,-- in the guise of a (false) documentary,-- about ‘someone’, who never existed.

But for which you become so interested that the scenario (*note:* sequence of scenes, -- also: text of a film), in the end, seems somewhat meager. As a result, the uniqueness lies mainly in the form. Thus ‘Zelig’ is more of a curiosity (*note :* ‘rare’, ‘strange’, ‘peculiar’ something).

In other words: according to Botermans, the singularity lies not (so much) in the content (scenario), but (rather) in the design; See how he defines that singularity (WDM 252: business definition).

“In terms of form, ‘Zelig’ is a kind of TV survey: chunks of old film of all kinds of provenance, snippets of newsreels to situate the era, testimonies from people who knew Zelig, reviews by renowned (*op-ed:* renowned) people, who give their opinions of him and seek to define him, as a phenomenon, more closely. All fantasized, because, no matter how credible he may seem, Zelig (Woody Allen himself) did not exist.”

Note.-- The film is significant not only because it ‘makes true’ a brilliant ‘lie’. It also typifies (‘defines’) a type of man.

Zelig is, as a human being, a kind of “chameleon” he changes shape according to the fellow human beings, with whom he was. A satire (mockery) of a widespread human tendency to lose oneself in the crowd, not to stand out;--at once: to go along with the others, to think like one’s fellow men think (the prevailing opinions),-- very particularly: to ‘share’ the opinion of those one meets, individually. What is called ‘conformism’ (conforming, willingly, to what the others think, demand).

WDM 297.

Psychological: the (unconscious or) conscious motive is the desire to be loved by others.

"A malleability, always so skilfully abused by demagogues (= people's men) of all kinds." (J. Botermans, a.c.).

In other words: the follower - or follower type, who grows into the submissive human being, on whom dictatorships of the left or the right settle. The "authoritarian man" abuses such submissives. Cfr WDM 280.

Originality as reified commons.

A "commonplace" (locus comunis) in art, especially, is all that is (has become) common. What is common.

Are we listening to *Ferd. Brunetière* (1849/1906), *Histoire et littérature*, 3 t., Paris, 1893/1898. In t. 3 (*Théorie du lieu commun*), 31ss., he writes what follows.

A. "I bring out, here, the paradox that the commonplace is, precisely, the very condition of literary inventiveness.(...). I mean the novel, the stage, poetry: nothing arises out of nothing. This 'commonplace' (*note:* the phrase 'Not' arises out of nothing' is commonly used) is indicated here".

(i) Several generations of men must have lived, first, from the same body of ideas,

(ii) so that it might, by a masterful hand, be transformed. The 'originality' par excellence does not consist in 'drawing something out of one's own being; but rather in placing one's own stamp on what is common. (...). To work creatively (imaginatively) is not to find something outside the commonplace : it is to renew that commonplace - by re-establishing it).

B. Brunetière is talking here about what we have called, since *Julia Kristeva, Semeiotikè* (*Recherches pour une sémanalyse*), (Semeiotikè (Research for a semanalysis) Paris, 1969, 'intertextuality, i.e. the fact that later texts borrow so much from earlier texts that they appear intertwined.

"The exceptionalism of a Joh.W. Goethe (WDM 17), even if it borrowed much from others, does not diminish thereby. On the contrary: precisely in the incomparable

WDM 298.

derive shows that exceptionality. I want to say,--yes, I dare say that the meekness with which Goethe is guided by what the old theme of the Faust figure (WDM 170) yields,--the instinctive aptness, with which he shifts what, for a great work, could serve, from what only fairgoers appreciated,--the utterly Olympian-like self-confidence, with which he conducts borrowings, (...),--that it is precisely these qualities that characterize true creativity.

Final sum:

Between the obscure precursors of Goethe and the great master is, among other things, a distinction : the small but mighty flame of genius.

'Genius' means, here: high degree of creativity, originality, 'originality', human singularity, showing itself in some cultural product.

Conclusion.

The idiography or individuology is the responsible description and explanation of all that is singular.

In a broader sense: bringing up all that is rare. -- Is the unique that which exists just once, the rare is that which exists in very small number.

b.-- ***The singular in the history of ideas.***

It has been, always, a confrontation between the general and the only (rare).

(1) -- ***Prophilosophy versus Platonism***.

Platon of Athens (-427/-347) in his *Hippias maior* (287th), has Socrates ask the general question, "What is the beautiful thing?"

Hippias of Elis (.../-343), a Sophist, replies, "A beautiful girl,--that is clean;-- As a Nominalist, the Sophist Hippies evades generality to characterize them, indirectly through one applicative model--a beautiful girl (WDM 290).

Nominalists do not believe in a general idea, present in a multitude of copies. Platon - and with him his pupil Aristotle - do. They are, viz. both Conceptualists and adherents of the idea that a concept, realized in things, is generally present (which is fulfilled by induction and factual definition).

(2).-- ***Aristotle***.

Aristotle (-384/-322) seeks the synthesis between Protosophism and Platonism, which, in his view, each exaggerated in its own way.

(i) "The given - 'ousia' (= something) - is not the general, but 'sun.olon ti' (something concrete). It consists of a singular form and a singular matter". Thus *O. Willmann, Gesch. d. Id.*, I (*Vorg. u. Gesch. d. ant. Id*.), 568, summarizes Aristotle's teaching.

7.1. First year: philosophical theory of thought and method.
Higher Institute for Pedagogy, VII-the olympiadelaan, 25 2020 Antwerp
Introduction to Philosophy (1987/1988).

7.1.3. Part III, pp. 301 to 407

Contents: see p. 401

WDM 299.
(ii) "The content of a definition (WDM 249; 265), which represents the general, is, for Aristotle, nothing more den something that is said to be excluded from singular data." (Ibid.).

Summary:
Both what is and what we know are oriented toward two aspects at the same time: the singular-concrete and the universal abstracted from it.

Which Willmann, o.c.,560, clearly states as a result. Aristotle distinguishes:
(a) 'tode ti' (this (being) here and now) or, also, 'prote ousia; prima substantia, first form of being,-- i.e. the singular -- concrete;
(b) 'to katholou', universale, the general, as well as 'deutera ousia', secunda substantia, second form of being,--i.e. the general being abstracted from the singular-concrete.

(3).-- *Augustine.*
We will limit ourselves to one point, which was taken up by the Scholastics : "Singula propriis creata sunt rationibus" (The individual things are created (by God) according to His own ideas. (in God's mind; WDM 285)). Thus *Augustine* in his *Quaest. oct*. 46:2.
The Bible, obviously thinking much less abstractly than Greek philosophy, paved a strong path to the singular,--and did so from God's ideas as its creation models.

(4) -- *The scholasticism* (800/ 1450).
(1) 'Science' - as before Aristotle - has as its object not universals (general concepts), but things, taken singularly, through those universals. To this only logic (and mathematics) makes an exception, of course.
(2) 'Practical knowledge' is distinguished from science precisely by this: the singular is its object. Action, after all, concerns the 'singularia', the individual things.

Bibl. st.: *O. Willmann, Gesch. d. Id II* (*Der Id. d. Kirchenväter u. d. Id. d. Scholastiker*), 406.
Noteworthy is the main figure of the Spanish Scholastic Francis Suarez (1548/1617), after Aristotle and Plotinos the greatest ontologist: our mind possesses, from the singular, an immediate and well-defined intuition (direct knowledge).

WDM 300.

(5).-- *The romance.*

WDM 5 already taught us this.

(6) -- ***Wilhelm Windelband*** (1848/1915).

a. Windelband belongs to the Badische Schule (also: Heidelberger Tradition) of Neo-Kantians. Axiology (WDM 74) and philosophy of history were central.

Analogously, *W. Dilthey* (1833/1911); the founder of the Geisteswissenschaft, Windelband distinguished - in the empirical sciences (WDM 239) - 'natural science' which is 'nomothetic', i.e. looks for general laws, in the things of nature, and 'history science' i.e. an 'idiographic' science of human affairs, emphasized in its singularity or 'Einmaligkeit'. Thus in his rectorate address '*Geschichte und Naturwissenschaft*' (1894).

b. *Heinrich Rickert* (1863/1936),

Also a member of the Badener Schule, in his *Kulturwissenschaft und Naturwissenschaft* (1899), Dilthey's and Windelband's systechy (pair of opposites) is repeated, but instead of history he speaks of cultural science (culturology).

Unlike natural science, "which always has an eye for the general," cultural science is a "science of the singular

Note -- The dual logic.

H. Rickert situates a typical philosophical task in logic, which, according to him, decays into two types.

(i) The traditional logic, since Parmenides and Zenon, the Eleates,--which makes possible the study of the general,

(ii) is distinguished from a "new logic," which allows for the study of the singular.

Bibl. sample : *G. Barraclough, Scientific Method and the Work of the Historian, in: Logic, Methodology and Philosophy of Science* (a work by Barraclough), in: *Proceedings of the 1960 International Congress*, Stanford University Press, 1962.

As an aside, one can see that (German) romanticism was afterthought in the Badener Schule.

(7) -- *Georges Canguilhem* (1904/1995).

Canguilhem is, with one M. Foucault (1926/1984), one of the foremost French epistemologists, for whom, among other things, history of science is central.

Bibl. st.: *Fr. Guéry, L' épistemologie* (*Une théorie des sciences*), (Epistemology (A theory of science)) in: *A. Noiray, dir., La philosophie* (*Dictionnaire*), t. 1, 156/163 (*De la philosophie à la médecine, de la médecine à l' epistemologie: Georges Canguilhem*), ((From philosophy to medicine, from medicine to epistemology: Georges Canguilhem)).

From Canguilhem's *Etudes d'histoire et de philosophie des sciences*, (Studies in the history and philosophy of science), Paris, 1975-3, 389s., we extract an idiographic text.

WDM 301.

a.-- Doctors - literally Canguilhem - have always experimented (WDM 224): most of the time the doctor, in an emergency or urgent case, has to decide. There is always something new to be introduced,-- in the sense that each patient is a new case,-- due to its singularity.

b.-- Well, the singular and the urgent lend themselves poorly to the knowledge of the type 'more geometrico' (after geometric model, - a commonplace, dating from the Cartesian *B. de Spinoza* (1632/1677), in his *Ethica more geometrico*, an ethics after geometric model). This term stands, here, for general knowledge, which abstracts from the singular.

c.-- "Every day the physician performs therapeutic operations on his sick" (according to Cl. Bernard (1813/1878; French epistemologist).

a. But - like Cl. Bernard or anybody else, who experiments on individuals, one cannot say beforehand where exactly the boundary lies between the harmful, the neutral or the beneficial (WDM 189: differential) or this boundary may vary from one singular sick person to another.

Consequence: it is the duty of every physician to say explicitly that one, in medicine, experiments. That is to say : one cares, but under one condition, while trembling (*note:* for the reason of venturing with people).

b. Even more : a medicine, which is concerned with developing the sense of the singular in the living person, can only be an experimental medicine: without experiments no diagnosis, no prospect ('pronostic'), in treating sick people. (O.c., 389).

d.-- Canguilhem targets two untenable positions:

a. medicine, insofar as it means only diseases (an abstraction), - without diseases, - can be a kind of axiomatic-theoretical science, nothing more.

b. The so-called "humanistic" or "personalistic" medicine, which does want to take care of the individual patient, as a singular person, but, in doing so, is opposed to experimentation, is untenable : the individual in a patient is only discovered through experimentation.

WDM 302.

Note.-- Homeopathic medicine, founded by the German physician Samuel Fr. Chr. Hahnemann (1755/1843), will most certainly endorse the statement that medicine is essentially individual (and, therefore, in its practice, idiographic). She too says : "Not diseases (abstractions), but sick people (living 'beings' (WDM 142)) should be cared for".

Note -- Conclusion.

(1) We stand, with Canguilhem's thesis, for an idiographic experimentalism,-- similar to John Dewey's Experimentalism, which is nomothetic (flouting general laws).

(2) This recalls, particularly strikingly, Scholasticism, with its "practical knowledge" (WDM 299), strictly distinguished from theoretical-universal science.

(3) Actually - in our humble opinion - nomothetic and idiographic knowledge makes perfect sense if one designates them as one of the many uses of the systechy 'figure/ background' (WDM 168v.).

To speak with Bertels and Nauta (WDM 293): idiography takes the constant, the individual 'a' as a figure, but in the background of the variable 'x' (which handles all possible 'a', 'b', etc.); nomothetics takes, in the foreground, the figure 'x', but not without, in the background, including an 'a', 'b', etc., in the analyses.

Both are complementary. this in virtue of both analogy (WDM 105)

(4) This settles, in our view, the contention around some Structuralists' (WDM 93) disparagement of the individual, emphasized by Existentialism (WDM 16; 70). It is true that "abstract, universal" structures clasp the individual (and do not leave it that freedom, which an Existentialist provides).

But it is also true that - think of Brunetière's systechie 'commonplace/ actualization of a commonplace' (WDM 297) - the individual, called 'subject' by the Existentialists, signifies, 'interprets' (as a sense foundation: WDM 218) those structures, sometimes very individual.

Only the analogy of structures and individuals saves the right idea. One sees, of this, one application in e.g. sociology (WDM 95v.).

c.-- ***The comparative definition of the singular.***

We know it: the distinguished is, by scope, limited to just one case. But, by content, the individual seems difficult to "define.

WDM 303.

The Scholasticians of the Middle Ages, in fact, harbored a maxim: "Individuum ineffabile" (The individual is indistinguishable, -- undefinable). Closer look:

(i) one can, as e.g. WDM 295 ('unicum'); 296 ('chameleon'); 297 (Goethe's Faust) showed it to us, well characterize the only (resp. rare) (WDM 250: characterizing definition);

(ii) But the aggregation of traits ("forms of being") is never exhaustive (it never exhausts the totality which constitutes the singular), as *Thomas Aquinas* (1225/1274; top figure of High Scholasticism) says, in his *In iv Sent*., 1. ii, dist. 3, q. 3, a.3c ("huiusmodi formis aggregatis", thanks to the aggregation of such features of knowledge, one does not get there except fragmentarily).

The ostensive (deictic) definition.

Appl. model.

A teacher wants to teach, to the children, what a cube is. She brings such an object to class and shows ('ostendere' (lat.) = to show, to point out) the cube, while saying, "this (= creature form) here and now is a cube."

One has an ostensive definition when a concept (individual concept), expressed in a term, is shown in an applicative model of it (= an example), -- where this example constitutes one or more objects in the empirical world. Such a thing is obviously 'defining' something singular (i.e.: the children, in question, will, for the time being, only know 'this cube here and now').

The singular-concrete definition.

It is here, above all, that the internal and external equation (WDM 107 comes to its full extent.

Read how S. Augustine, WDM 107, e.g., characterizes the connection between foreign conquests and domestic social injustice, within the Roman Empire : with a few traits ("formis aggregatis" S. Thomas would say) he typifies the situation at the time, i.e., the whole, of singular-concrete circumstances.

(a) The Roman Empire, of that time, is a one-time thing, -- as the Romantics would say.

Trait (characteristic): pax romans, Roman peace, i.e. stability regarding order of society, -- based mainly on the ius romanum, Roman law.

(b) Second Trait: abundant war revenues (wars of conquest), unevenly distributed among the population (what he calls "caricature of peace").

WDM 304.

One sees that S. Augustine does not lose himself in an "encyclopedic" accumulation of characteristics (= characterizing) : from the totality, which the Roman empire constituted at that time, he extracts characteristics, which form the figure, against the background of the (total) Empire (WDM 168), situated in its (foreign) context.

'Concrete'

'Concrete' (Lat.: 'con.cretum; grown together, fused) means "placed in its singular context;

1. *Appl. mod.*

The teacher, out of the totality of objects in her classroom, extracts just one object, the cube: she says, "This here and now." This implies that she situates the object among the class objects. She says, further:

"This here and now is a cube." This implies that she situates this specimen in the totality of all that is called "cube.

The first 'situate' is concrete. From now on, the children will look at the cube, there, in that spot, whenever the word 'cube' is heard.

The second 'situate' is abstract: it is to say that this object is precisely one specimen of a collection.-

It is for this reason that the logic of the individual does not coincide at all with Individualism: the individual is always situated in a context; he is "concretely" fused with the whole system in which he belongs. The Romantics have already clearly taught us that concretion. However individually oriented, Romanticism thinks 'organically' (WDM 96).

2. Appl. model.

That internal comparison (singular) with external comparison (concrete), goes together, shows us, too, Augustine. He sees the rich upper class:

(i) he situates them relative to the rest of the poorer or poorer fellow citizens (social injustice);

(ii) he situates them within the international context (international injustice). In other words, Augustine sees a singular fact concretely, placed in its equally singular context.

d.-- *The method of the school of Coimbra*.

The Conimbricenses (= the members of the School of Coïmbra (Portugal)) are Jesuits, who

(i) Soholastic thinking,

(ii) but also studied Antique Greek philosophy directly (without Scholastic teachers).-- In their *In universam dialecticam Aristotelis*, Coimbra, 1605, they give a definition of the singular:

"Id, cuius omnes simul proprietates alteri con venire non possunt" (That something, all of whose traits together cannot fit something else).

WDM 305.

The singularizing distich.

The Conimbricenses give a method of characterizing something, in its uniqueness (rarity). It is laid down in a mnemonic two-line verse: "forma (creature form),-- figura (Gestalt, material view), locus (place), stirps (descent), nomen (proper name), patria (fatherland, native region), tempus (time(dot)) unum (the singular, which is just one in number) perpetua reddere lege solent (all these features reflect, usually, invariably the singular)."

(1) It is clear that "ancestry" and "homeland," usually, designate a person.

(2) The other kentraws fit all kinds of things.

(3) These features characterize convergence (thanks to concurrence): sometimes the name is enough (e.g. Napoleon,--at least for those sufficiently acquainted with our European history); but, in many cases, there is, in the order of enumeration, convergence: a town along the Scheldt (Oudenaarde, Ghent, Antwerp), between Oudenaarde and Antwerp (under that condition it is e.g. Ghent), with the town plan (only then will the idea of Ghent be confirmed, verified).v. Ghent), one of the three major ports of Belgium (which reinforces the idea 'Ghent'), with the city plan (only then will the convergence be confirmed, verified).

The idiographic sciences.

(i) The description of the universe (cosmography, astronomy),--especially geography (as a representation of natural and cultural landscape),-- they are idiographic sciences: the sun e.g. with its planets, of which the Earth is one, is singular (all other 'stars' (suns) are excluded (by the proper name e.g.).

The city of Ghent is singular; all other cities and places are not Ghent. But - as concrete i.e. situated in singular context (system) - Ghent is defined by coordinates.

(ii) Historiography is also an idiographic professional science. Napoleon is unique. He does situate himself - concretely - in French and European history.

This does not exclude that and cosmography, respectively geography and history show general characteristics. But these are a second aspect.

WDM 306.

Expressed in symbol-shortened terms (WDM 293):

(i) ‘city is ‘x’; ‘Ghent’ is ‘a’ (one constant among many variably-compressible constant).

(ii) ‘top political figure’ is ‘x’ (variable); ‘Napoleon’ is ‘a’ (constant).

The general or nomothetic side of cosmography, respectively geography and of historiography is complementary to the singular or idiographic side.

Appl. model.

As previously seen ‘de solo et omni definito’ (WDM 249, i.e. only the defined and all the defined. In individuological data it is already very well when it is about ‘solum definitum’, only about the defined.

(a).-- the form of being.-- this is the general - abstract being : woman.

(b).-- the singularizing traits (characterization).

1. Figure (material view): very nice.

2. (proper) name: Roxana.

3. descent: daughter of Oxuartes, satrap of the Persian monarch.

4. homeland (region of birth): Baktrianè, a part of the Persian Empire of the time.

5. place: Baktrianè, an area that would cover, in part, present-day Turkestan, Iran and (northern) Afghanistan.

6. time(dot): -327 (as a Persian princess married to Alexander III, the Great (-456/-323)); -319 (departure for Epeiros (= Epirus), with Alexander’s mother, Olumpias); -316 (imprisoned by Kas(s)andros (= Cassander), king of Makedonia (Macedonia; -354/-297)); -310 (murdered by the same monarch).

Conclusion.

As a definition, it is true that it is only about Roxana but representing the whole Roxana,--that is something else. ‘Individuum ineffabile’ (the singular is inexhaustible). There is much more to be said about that princess, with her tragic end of life.

Bibl. st.: *H. Pinard de la Boullaye, S. J., L’ étude comparée des religions* II (*Ses méhodes*), Paris, 1929-3, 509/554 (*La démonstration par convergence d’indices probables*;-- (The demonstration by convergence of probable indices), esp. 511/516 (*Nature du singulier*); 517/ 521 (*La preuve par convergence dans la vie courante*)).

Paranormological comment.

Regarding the figure (material view) the following.

1. *Gerda Walther, Phänomenologie der Mystik*, Olter und Freiburg i.Br., 1955, 68ff. (*Analyse der aura*); 117 (“*hier erlebt es sich gleichsam von seiner individuellsten Seite*”), (here it experiences itself, as it were, from its most individual side) indicates to us that whoever sees the ‘aura’ (WDM 257) sees the singularity of it with him. So that what is (mantically) ‘seen’ is highly individual.

WDM 307.

a.-- Reread (WDM 245) what Itten, regarding "radiation," observed in his students: each student was individual.

b.-- That the 'figure' (material view,-- both coarse and fine) is really individual, as G. Walther claims, is shown, secondly, by what the Soviet Russian Semyon Kirlian, the founder of the world-famous 'Kirlian photography' of (at least part of) the aura, tells a couple of American informers about it.

H. Gris/ W. Dick, Les nouveaux sorciers du Kremlin, (The new wizards of the Kremlin,), Paris, 1979, 101, writes: "We photographed our respective auras. We discovered, in doing so, that they were of different colors: my wife's aura was orange-colored, mine was bluish.

Later it dawned on us that everyone has their own color. Why, why,-- we still don't know.-- Maybe it's like with fingerprints: there are no two identical fingerprints".

Conclusion.

The fingerprint belongs to the coarse material figure; the aura to the fine material one. Both details are parts of the whole figure, which constitutes a system (coherent whole). Both prove that every human being is a single person and, well, in a verifiable way. Although as a human being an 'x', he/she is nevertheless always an 'a'.

e.-- ***The parallel (convergent) induction***.

1. ***The basics.***

A differential (WDM 189): divergent (di.vergent)/similar (parallel)/concurrent (con.vergent).

Cfr WDM 294: a "confluence" (convergence of circumstances is one example.

2. ***Appl. model.***

We take a playful (playful) example.

Famous has become Philippe de Dieuleveult (in Zaire, meanwhile, disappeared), the treasure hunter of La chasse aux trésors (der French-language TV stations).

(i) The lemma (= the searched for) is e.g., a village smith, somewhere in the vicinity of some village in Cameroon, of which he does not even know the name (one of the singularizing features) (from the principals in Paris). But it turns out that it can be found somewhere in the vicinity of Yaounde (Cameroon's capital). The helicopter can take off and Philippe can start searching.

WDM 308,

(ii) the analysis must, now, decide whether that first designation,-- in Latin: indicium, is correct. The first thing Philippe does, for example, is consult a geographical map: effectively, there are villages, in Yaounde's vicinity. But what kind?

Second step: the tipsters from Paris find the name of a village. Now Philippe can get out of the helicopter and ask a group of Negro-African women working in the fields if they know a village by that name. And that is where a known village blacksmith lives. If so, then a second review (= analysis) can begin.

Until an old negro points his finger -- in the blazing sun of the 'Black Mainland' -- at a blacksmith, seated in front of his miniature blast furnace. So about two hundred yards outside the village,-- somewhere where the wilderness -'brousse' - begins.

The convergent induction.

(i) All the data - either from Paris or because of his map or the locals - separately cannot make the searcher, who is Philippe de Dieuleveult, find the singular village smith.

(ii) But with all these data collectively (collective structure) allow him, aptly, to track down the village blacksmith - holding the object to be taken, smiling, as Negro Africans can.

a. Here is an example of truly summative induction (WDM 126), but in its convergent modality. Only the total sum gives the certainty.

b. Here also differential equation (WDM 179vv.) is at work: an increasing series (quantitative accretion) of small indicia, designations, gives, at some point, a qualitative leap,-- logically speaking: at some point the Dieuleveult is practically sure that he has found the one he is looking for.

The "black-box" method.

Somewhat similar to our little example is what is called, in natural science circles, the "black-box method.

W.R. Fuchs, Thinking with computers, The Hague, s.d., 234vv., gives an idea of this.

(i) ***The model.***

First of all - according to the proposer - one's 'black box' is called an electrical switch box that the electrician cannot or should not open, So what this 'black box', inside, stores, he does not know. But he can, through wires of all kinds, experiment (WDM 224vv.). By carrying out operations, he knows, gradually, at least partially and indirectly, the essential form (WDM 28) of what the black box holds.

WDM 309.

(ii) *The original.*

WDM 113 (model theory) taught us that the "original" is the unknown, which we approach, through a model, which is known (in this case : the electrician's black box).

(ii). a.-- The essence form - forma - of something is, usually, an unknown, a 'qualitas occulta'; an 'x' (in the sense of 'unknown'), as *Otto Willmann, Abrisz der Philosophie* (*Philosophische Propädeutik*), Wien, 1959-5, 366, says. That this is so is shown by the scientific method: it starts from a purely nominal definition,--in order to arrive, by reductive method (induction), at a businesslike definition, representing the objective form of being (WDM 250vv.). As long as the objective definition remains unproven, that which one examines (the form of being) also remains a black box, an unknown.

This was already very clear to an Ideationalist like Platon : 'doctrine of ideas' does not equal 'omniscience'. On the contrary.

(ii).b.-- The uncanny -- the mysterious -- is the most striking example of this.

Appl. model.

Read e.g. *Umberto Eco, The Name of the Rose*, Amsterdam, 1985. This raw novel, recently filmed, can be summarized - logically - in a sentence like "Which tracks lead to what?". One thinks of tracking, practiced in youth movements: it has the same logical structure.

1. As a sign - WDM 216: especially the indicative sign - each trace refers to that to which it belongs. A series of signs or traces form a convergent, summative induction: they refer, all of them, to the same 'x' (unknown).

2. *Eco* himself, in his *Postscript* to *The Name of the Rose*, Amsterdam, 1984, 36, says it all: "I needed a detective. And, indeed, e.g. The name of the rose, 30/33; 35, etc., place us in full 'detective' work. The finding and pointing out of 'traces' - so typical of William of Baskerville (standing for the Nominalist William of Ockham (1300/1350)) - touches the very structure of this cultural-historical novel.

Appl. model.

No one less than S. Freud (WDM 47) may have had a better sense of how a human science like Psychoanalysis is a tracking, a detective work. He knew himself to be the *Sherlock Holmes*, the world-famous detective from the works of Sir *Conan Doyle* (1859/1930), of what acts from the unconscious and the subconscious on our conscious life.

WDM 310.

We give a simplified example taken from *P. Valinieff, Complexes et psychoanalyse*, Montreal, 1970, 51/67 (*Le complex d' OEdipe*).

A.-- *The data.*

Valinieff gets, one day, Liliane D. as a client. She is beautiful, very sensible, successful professionally. But in her emotional life - her engagements and marriage attempts - she fails, time after time.

1.-- When she was four years old, her parents committed divorce.

2.a. Her mother raises her,--with whom, very quickly, she lives in conflict ("She was stupid; absorbed in her pots and pans"),--until, seventeen, she moves away from home.--

2.b.- With her father, meanwhile, she maintained close and cordial contacts.

2.c.- She turns seventeen: she marries a man, who is her age, and, with him, goes to live with her father, who provides accommodation for the couple. After a few weeks, things don't work out: Liliane neglects her household (the kitchen) and becomes averse to her husband, erotically speaking.

2.d.- After that short time, she moves out ... with a friend of her father's, much older than her and whom she hardly knew.

2.e.-- Three weeks later, she also breaks up with that man. She goes to live alone, in a studio: she wants a divorce and doesn't want to hear about any more marriages. But she succeeds perfectly as a helper in a commercial store.

2.f.-- Twelve years later, she arrives at Valinieff's house, the psychoanalyst.

B.-- The interpretation.

Behold the maze the black box or 'x' (understood as a symbol of the unknown).

We summarize Valinieff's analysis.

Ad.1.-- Divorce: at the age of four, Liliane could not resolve the Oedipus conflict (her rivalry, with her father, with her mother; her "seducing" her father) normally.

Re 2.a.-- Her desire to seduce her father -- unconsciously -- leads her to expel her mother as an antagonist, and thus: conflict. As a domestic being she finds her mother "too feminine

Ad.2.b.-- Her oedipal inclination toward her father explains the cordial relations.

Re 12.c.-- Seventeen: without having resolved the Oedipus conflict normally (look at her maternal aversion along with an overly strong paternal love).

WDM 311

Her first marriage is an ill-considered, immature event: she flees into that marriage. The residence with the father betrays her unconscious infatuation with her father,--infatuation, which still shows infantile (childish) traits. Liliane refuses to be the wife of a man other than her father,--just as she also refuses to be a wife, i.e. to do housework (like her mother, whom she, in this, finds contemptible).

Re 2.d.-- She runs off with an older man: 'transference' (WDM 149) works here; she sees in that man, unconsciously, her father (who is unattainable): marriage to that man she would like to experience with her father. Men her age are too different from her older) father.

Re 2.e.- She refuses any marriage without question: after such unsuccessful attempts, Lilian, gives up definitively on being the wife of a man who is not her father. She succeeds in her profession, which is masculine (no pots and pans, - no mother figure).

The reductive method, in this convergent induction.

(A) ***Perception (given/requested).***

A woman, partly succeeding, partly failing (as the data indicate); asked: rescue them from that pocket alley, -- by means of Psychoanalysis.

(B) ***Lemmatic-analytical method.***

(B).1. -- ***The lemma*** (hypothesis) here is the not healthy, normal, processed Oedipus complex.

(B).2.-- ***Deduction*** if the hypothesis is correct, then all the details become intelligible (WDM 8v.).

(B).3. ***Induction*** (= peirastic or inductive reduction): the interpretation, above, verifies the assumption that Liliane's partial failure is an ill-processed, infantile (child) remaining Oedipus complex, resp. Oedipus conflict.

Conclusion.-- Freud, like any professional scientist, takes a reductive approach.

Compared to transempirical verification (WDR 272), a similarity stands out: no one sees, 'empirically' (grossly materially ascertainable) the Oedipus complex. Here a certain faith (in psychoanalysis and its basic ideas) comes in handy. Without that faith (in what one does not 'see') it does not work. In this sense, psychoanalysis is as 'unscientific' as religious faith or occultism. But also as 'rational', because reductive reasoning.

WDM 312.

We saw that nomothetia (the general in the singular) and idiography (the only, singular, in the general) - WDM 300 (Windelband) - must be thought in one (WDM 293: 302: 306).

Here we have, of this, an application: the idea ‘Oedipus complex’ is an ‘x’ (a variable, changeable, - summary of all possible Oedipus complexes); the individual case of Liliane is an ‘a’ (a constant, unchangeable, just one case of Oedipus conflict).

Without the general idea, the individual case of Liliane remains “blind” (opaque, -- a maze); without the application to the black box, which is Liliane’s life, the idea remains “empty”; -- a pure “ens rationis” (a thought thing: WDM 270).

While Liliane is telling her story, the features of her individual life emerge one by one, like so many parts of a convergent induction: they all refer to one factor, the incorrectly processed Oedipus complex. Although always “mysterious,” thanks to the Psychoanalytic method the black box of Liliane’s soul life becomes more transparent. Thanks to the detective work of the Psychoanalyst.

Another applicative model.

The 1987 Nobel Prize in medicine and physiology was awarded to Japanese Prof Susumu Tonegawa. -- “The genetic aspect of antibody research was a complete mystery when S. Tonegawa started it.” Says Prof Bengt Samuelsson, of the Karolinska Institute.

“He was the only one, who, between 1976 and 1978, did research, in that field. this work was really unique”. Samuelsson said at a press conference.

It has been known for about twenty years that the immune defense of the human body possesses a fabulous variety of antibody types. These have the task of combating the multitude of infectious agents (agitating entities) that enter the body. The antibodies are produced by the white blood cells, the B-lymphocites.

S. Tonegawa has shown how certain elements in the genetic mass, to begin with, in limited quantity, available in the embryo organism, are displaced and regroup to form the B lymphocites. In which they each lymphocite-B allow the production of one type of antibody. The white blood cells are, from or that moment, specialized in the fight against precisely one kind of antigen, present in the infecting agents.

WDM 313.

One sees that Tonegawa - quite alone (according to Fritz Melchers, director of the Mit (Massachusetts Institute of Technology, Cambridge, USA), where Tonegawa worked) - analyzed a detective equal, the mystery (WDM 309) or the black box (the genetic aspect).

Bibl. sample : *Un chercheur japonais Nobel de médecine*, (Japanese researcher wins Nobel Prize for Medicine), in: *Journal de Genève* 13.10.1987.

f.-- The idiography (literary genre).

WDM 305 already taught us the idiographic subject sciences: description of the universe, geography,-- historiography.-- When these subjects really mean the concrete-individual, they express themselves in their own literatological type: the monograph, i.e., the representation of precisely one object -- a person, an event, a region, etc. -- in its concrete-singular form of being.

Note.-- The prosopography is that kind of monograph which portrays a person, in his character and personality. -- The biography (biography of life) is, of that, the narrative-historical form (historical narrativism,-- so it is now also said).

The idiosyncrasy.

One understands this phenomenon when one builds it into the thinking framework of "stimulus/response. It is the individual reaction to a stimulus.

Appl. mod.: some persons, on seeing a spider (P), get cramps (R). Others, at the sight of blood (P), faint (R). Still others, faced with food or drink, to which no one usually reacts 'idiosyncratically' (P), feel an instinctive aversion.

Medicine: a certain drug (P) begets "idiosyncratic side effects" in some individuals.

In the stricter sense, "idiosyncrasy" means hypersensitive reaction; in the broader sense, "individual reaction. -- Clearly, insofar as idiographic, a work pays very special attention to the idiosyncrasies peculiar to what it depicts.

The idiolect. -- Linguistic scientists talk about the idiolect or idiom, characteristic of one person,-- about 'idiom' (= 'idiotism'), the idiom of a region, social group, age, etc.. This may be recorded in an idiom dictionary.

WDM 314.

Note **-** The Structuralists e.g. (WDM 148), with their tendency to emphasize the nomothetic (the universal), misunderstand, easily, the idiolect.

More e.g. a Leo Spitzer (1887/1960), a literatologist, who places linguistics and literature at the center, with history as an auxiliary science, conceives of literary speech as:

(i) an act of language (an act, representing language), which engages in general language use,

(ii) but still an idiosyncratic act of language, namely as an expression of an original (WDM 295) or original personality with features that are singular.

Bibl. st.: *H. Weber, La méthode de L. Spitzer en critique littéraire*, in: *La Pensée* (*Revue du Retionalisme Moderne*), 135 (1967; oct.), 175/181.

What is now also worked out by a Tzvetan Todorov, for example, in spite of his first Structural period.

The method of psychological - characterological profile.

Charles Baudouin (1893/1963), *L'Ame et l'action* (*Prémisses d' une philosophie de la psychanalyse*), (The Soul and Action (Premises of a philosophy of psychoanalysis)), Geneva, 1969-2, 157s., teaches us a method - interesting for teachers, among others - of depicting the singular in a person (a child).

1. Baudouin is the founder, in 1924, of the International Institute of Psychology, in Geneva. He is the author of *L' âme enfantine et la psychanalyse*, (The child soul and psychoanalysis,), Neuchatel, 1931-1; 1964-2, a masterpiece on child psychology, with 'psychagogical' (emergency resolution) intent. It is a very personal and richly documented synthesis of Janet and Freud, Adler, Jung.

2. Baudouin relies on *Vera Kovarsky, trad., G.Rossolimo, L' individualité de l' enfant*, (The individuality of the child), Paris, 1929.

a.-- The term "character" is twofold: it means, first, the temperament ("a bold character, "a spontaneous child"), which shows the unformed urges in our nature; it means, second, the degree of self-control ("a child of character"). It remains a mystery.

b.-- The term "profile" means a drawn-out model of an (unknown original that is the) character (of, e.g., a child).

(i) The laboratory analysis examines the child under point of view of
a. movements, (coordination of them)
b. work rhythm,
c. mood (wealth or poverty of mind).

WDM 315.

(ii) These properties, after analysis, are noted by ‘coefficients’ (fixed values expressed in numbers; e.g., in ‘ax’, a is the constant value of the variable x). This is done on parallel (parallel) vertical lines.-- So e.g. :

locomotion:5
work rhythm:7
mind:9

locomotion:7
work rhythm:8
mind:9

One connects with a line, more or less horizontal, the values, noted on those vertical lines, -- such that highs and lows become visible. The profile is then that horizontal curve.

This is the synchronous aspect. But one can also proceed diachronically : some time later one repeats the analysis of the characteristics. The profile changes then show the development of an individual child.

Conclusion.-- What is called “character” is thereby reduced to a triad of parallel traits. Which, apparently, will be only part of the full character. And which awaits additional traits, of course.

Note.-- Baudouin, who was also open to graphology (characterology derived from writing), finds similarities with this method.

The character.

1. When one proceeds, as above, one relies on behavior (the behavioral psychological or “behavioral” basis),--that which is visible and tangible of the deeper character, which is situated in the soul itself.-- Motor activity, work rhythm, and expressions of mind are -- in that framework -- behaviors, which only together make up the behavior.

2. Those behaviors, together the behavior, are not a loose heap of traits, but a system (WDM 87), with a structure (WDM 86), which is made visible precisely in the profile.

Ontological: the creature form or ‘forma’ of conduct.-- “The goodness of a sanguinary (*op.:* full-blooded, adrift, ‘fiery’ temperament) living with ease is not that of an ‘enthusiastic’ (spirited) one. The prudence of a fearful character or an obsessed one (*op.:* acting under the pressure of compulsions) is not that of a sedate man of action.” (Ch. Baudouin, o.c., 154).

The profile mentioned above must therefore be understood in this totalizing sense.

WDM 316,

The idiographic nature of any art.

a. (1) We saw, WDM 16, that a work of art, if, at least, it has some substance, involves a world -- and life -- view.--

(2) The action structure, WDM 162, is one model of biographical, describing a life or a life episode, art.

(3) The major aesthetic categories, WDM 192vv, teach us the axiological properties (beautiful, - lovely, exalted; ugly, - comic, tragic) in every art.-- Conclusion : a work of art exhibits several aspects.

b. The question arises, "Is every art, now, nomothetic or idiographic?"

With *O. Willmann, Abrisz der Philosophie*, Wien, 1959-5, 305, one can reply, "Although poetry and art generally reflect the particular case - and do so in singular ways - yet they move in a general climate.

In this sense, Aristotle labels literature as more 'philosophical' (*note:* more general) than historiography."

A.- One rereads WDM 122 (the synecdoche): what e.g. a Sartre or a Gabriel Marcel, Existentialists, who write 'philosophical plays', portray in one or more singular figures, has, in fact and in their intention, often, a universal scope.

Like, when the inspector says, "A teacher(s) comes on time." He is speaking singularly, but he means it universally: synecdochically, "a teacher" actually means, in his meaning, "all teachers. So too, often, in a work of art: singular figures have universal bearing.

Synecdochically understood, an idiography is a nomothetic! Cf. WDM 302 (idiographic figure/ nomothetic background); WDM 293 ('a' (idiogr.)/ 'x' (nomoth.)).

In a constant 'a' one reads, in fact, precisely one case of x, the variable. Thus both Aristotle and the Existentialists can speak of 'philosophical' (i.e. universally intended) art.

B. One can also express the same thing, with a Russell or a Quine, in another way: to "verbalize" the grammatical proper names (WDM 292). The singular weakens, then, into the universal (the logical proper name).

Ecology as an idiographic science.

With a *Leslie Reid, Ecology*, Utr./ Antw.,1973-2, 9, we define "ecology" as the analysis of life situated in its environment, -- with one of the central ideas being "balance.

WDM 317.

a. This environment or living center is both the natural and the cultural landscape (WDM 305),-- the latter, grown in viertue of (cultural) history (WDM 305). Culture, especially in its economic dimension, plays, in it, a leading role (WDM 248: Greens, Ecologists, Ecolo-Pacifists),

b. Carl Sagan, professor of astronomy and sciences at Cornell University (USA), gave a brilliant talk at the end of January 1988 in Davos (CH), for the World Economic Forum, on our attacks - of all kinds - on the environment, and in particular the danger inherent in nuclear weapons.

The greenhouse effect, caused by the consumption of energy of fossil origin (with the temperature rise of the whole planet),-- the depletion of the ozone layer, protector against the UV rays (WDM 183v.), among others by the "spray", -- the acid rain, the heavy metals,-- the sixty thousand nuclear weapons (mainly in American and Soviet possession), which can destroy ten times each city of the whole planet,-- these are some of the main threats, weighing on our single, singular, center of life.

All these dangers must be dealt with 'globally' - i.e. planetarily,-- by all states.

Bib. Sample : *P. Novello, Symposium de Davos* (*Vibrant plaidoyer contre les atteintes à l'ecologie*), ((Vibrant plea against the attacks on the ecology),), in: *Journal de Genève* 02.02.1988.

c. In 1977 (in Georgia) and in 1987, in Moscow, an International Congress for Education and Training on the Meaning of Life was held: the sense of the mean is one aspect of all education.

In 1986, a Colloquium was held within the framework of UNESCO, in Paris:

(i) Undoubtedly, the physical and biological aspects make up the natural basis of the human habitat.

(ii) But the socio-cultural and economic, as well as the moral (moral, ethical) values decide on which directions, which instruments will help man to better understand and use the resources of nature, in view of his need satisfaction.

In this light, the content and teaching methods, peculiar to geography and history, economics and sociology) viewed as learning subjects concerning the environment, were discussed.

In 1986 - October - twelve countries reported on educational innovation concerning environmental education: the natural and human sciences are, apparently, being reinterpreted within that framework.

WDM 318.

Thus, in some progressive experiments, the natural sciences, geography and history are taught as environmental sciences. But - fundamentally - this is still one-sided: all subjects are environmental subjects.

Reason: not only extraterrestrial nature, but also all that we do - labor, play, art, religion, morals, society, etc. - all of that establishes life centers.

Bibl. sample : *Françoise Menétrey, Réforme: Histoire et géographie, sciences de l' environnement*?, (Reform: History and geography, environmental sciences?), in: *Journal de Genève*, 1987.

An ecological profession: philosophy.

1. We saw that philosophy, as a philosophy of nature, got off the ground with the Milesians (WDM 12vv.). The oldest Hellenic thinkers, on the contrary, saw one all-embracing fact, the 'fusis', nature,--approachable in various (Milesian, Pythagorean, Eleatic) ways.

2. *E.W. Beth, Nature Philosophy*, Gorinchem, 1948, 35vv, specifies.

(a) Nature, as an ordered and, therefore, astonishing (i.e., beautiful) whole or cosmos, is a world, i.e., precisely one, all being in its entirety (WDM 228v.: all, whole) encompassing system.

This collection of beings belonging together -- rocks, plants, animals, human beings, -- yes, extraterrestrial beings (WDM 17: the deities also belonged, according to the Ancient Greek, to the living middle) -- the oldest thinkers compare, easily, to a society, more or less a 'polis' or (city) state in size, of which rock, plant, animal, human being, extraterrestrial being, Supreme Being are 'citizens',-- all jointly responsible for that one, single, all-encompassing whole, which is 'being'.

(b) Closely examined, with our current ecological sensibility, this philosophy comes through as an environmental wisdom,--of great stature. This can still inspire, provided it is updated (refounded).

Later, however, this comprehensive philosophy of nature will be divided, - since the Platonist Xenokrates of Chalkedon (leader of the Akadèmeia -338/-314), into ontology ('dialectics'), physical and ethics. In which nature retained its place of honor: man, as a being, situated in nature, visible manifestation of 'being', acts conscientiously according to the norms, which, through the one nature, spring from that one 'being'.

WDM 319.

(III).A. -- ***Judgmental theory.***

Formal logic, i.e., the logic of the "forma" (WDM 28) or form of being, deals at length with the "forma," i.e., what is thought in a concept (concept, idea) and expressed in a term,--in order, thereupon, to take a closer look at the judgment (judgment statement), expressed in one or more sentences (propositions).

We do say "even. Why? Because the essentials of traditional logic have already been said,--in a correctly understood ontology, an equally correctly understood harmology (theory of order, resp. theory of order) and, not least, in a comprehensive theory of understanding. What we have done so far. So ultra briefly the essentials concerning judgment and proposition.

The judgment, expressed in a sentence, is an interpretation.

WDM 265 already taught us that - compared to the extra mental reality - our ideas (concepts, notions) are a mode of interpretation. The same is true, in a different way, of our judgments. Not without reason *Aristotle* calls his theory of judgments *Peri hermeneias,* De interpretatione, On interpretation.

1. Fact, on which *P. Ricoeur, Le conflit des interprétations* (*Essais hermeneutiques*), Paris, 1969, 8, emphasizes: with Aristotle, our judgmental speaking is always 'hermeneia', interpretation of reality, "dans la mesure même où il dit 'quelque chose' de quelque chose" (insofar as this speaking, namely, says 'something' about something). Note the ontological terms: 'saying something about something'.

2. Of this we saw, WDM 6, a little example.-- "Ornella Muti - something - is a beautiful movie star (something)". We said, then, that this is model-theoretic in nature:

(i) the original (the unknown, ornella muti, becomes more 'famous')

(ii) thanks to the model (the known), beautiful movie star. B (the known) provides information (intelligence) concerning 0 (the unknown). Information theory and modeling run, thus, into each other,

3. WDM 230 taught us, in short, that every judgment involves a -- at least implicit, unspoken -- comparison: by comparing 'Ornella Muti' (the subject) with 'beautiful movie star' (the saying) it appears that, indeed, both thought contents are -- not totally identical (tautological) but at least -- part-identical (analogous. From which it logically follows that rightly of an Ornella Muti it must (necessarily) be said that she is a beautiful film star,--at least if the inviolable (WDM 30) of reality, insofar as it contains truth, holds.

WDM 320.

Note.-- *Ch. Lahr, Logique*, 226s. (*Le jugement et la comparaison*), (Judgment and comparison), goes over, briefly, the various opinions on the subject.

(1).-- That some of the judgments arise comparatively, all thinkers admit (the "comparative" or, still, "thoughtful" judgments).

(2).-- However, are "spontaneous" or "unthinking" judgments similarly comparative, but unspoken? Behold the controversial question.

a.-- Aristotle and a whole series of Antiquaries,-- *Antoire Arnauld* (le Grand; 1612/1694) and *Pierre Nicole* (1625/1695), proposers of *Logique ou Art de penser* (1662;-- a work in the spirit of R. Descartes),-- later a Paul Janet (1823/1899; Spiritualist philosopher) and others, -- as well as the founder of English Enlightenment (Enlightened Rationalism) John Locke (1632/1704),-- all of them claiming that even the unthinking judgments are comparatively founded.

Thus, according to J. Locke, a judgment is "the sensation of a relation either of fitting together or not - fitting together of two 'ideas' (contents of consciousness), which have already been observed and compared among themselves."

b.-- Thomas Reid (1710/ 1796; top figure of the Antirationalist Common - Sense philosophy),-- Victor Cousin (1792/1867; the Eclecticist) et al,-- they claim that the unthinking, unreasoned judgments only allow a comparison of ideas after the fact. Phrases like 'I exist', 'I suffer', 'It is cold', 'The snow is white', arise before the utterer/ pronouncer of them 'reason' e.g., 'I', compared to 'exist', implies that 'I exist' or 'It (weather)', compared to 'cold', implies that 'It is cold'.

Note.-- It can be seen that the second opinion analyzes psychologically rather than logically and, thus, grasps a part of the truth. But the first opinion, which looks at all judgments logically, gets it right, as will be shown later still better : there are unspoken equations.

The judgment and the proposition.

(1).-- ***The judgment.***

'katègorein ti tinos' (asserting something about something) - according to Aristotle - in the form of a subject (subject) and a predicate (saying, attribute) is judgment. This is the operation of mind, implicit in every proposition (sentence).

WDM 321.

Note.-- *Bernhardt Bolzano* (1781/1848), among others in his *Wissenschaftslehre* (1837), once drew attention to a decisive distinction.

(1) Already Platon had come to the conclusion that all thinking proceeds in such a way that, of a subject, a saying is asserted and in such a way that it is asserted that the saying fits (affirmative sentence) or not (negative sentence), Thus all thinking is 'judging'. This contains the pure logical core of all real thinking.

Bibl. sample : *A. Gödeckemeyer, Platon*, Munich, 1922, 127f..

(Concerned both with the foundations of logic and mathematics, Bolzano sought an essential form of it. Central to this were e.g. phrases such as "A is B" (semantic interpretation: "The idea 'triangle' is composed"). He called such sentences 'Satz an sich' (= sentence in itself).

1. "By 'sense in itself' I understand only some statement, which says that something is or is not (leaving aside whether this statement is true or false)." (Wissenschaftslehre, Bd. 1)

2. Such is the purely logical-mathematical view.-- But listen carefully to what follows : "Thereby disregarding whether such a sentence in itself has been expressed in a language by anyone,--yes, by anyone in his mind in fact thought or imagined." (Ibid).

Practical: "A is B" (logical and/or mathematical) in independent of
(i) its (un)truth,
(ii) the distinctness or otherwise in a language of it,
(iii) the thoughtfulness or thinkability in one's mind of it or not.-- Such a thing is pure Platonism. Ideas' (here in its pronunciation form) exist independently and from language and even from thought (understood as linguistic or psychological acts). This implies that the pure form of being, present in a judgment, is both logical and mathematical.

3. "In the same nature, all 'truths in themselves' are one type of 'sentences in themselves.' (...). I understand by 'truth in itself' any sentence, which says something as it is,-- leaving in the middle whether ever anyone actually thought or uttered that sentence or not." (Ibid.).

Bibl. st.: *J.B. Rieffert, Logik* (*Eine Kritik an der Geschichte ihrer Idee*), (Logic (A Critique of the History of its Idea),), in: *M. Dessoir, Hrsg., Lehrbuch der Philosophie*, II (*Die Philosophie in ihren Einzelgebieten*), (Textbook of Philosophy, II (Philosophy in its Individual Fields)), Berlin, 1925, 27.

WDM 322.

In passing: with Franz Brentano (WDM 69) and a Marly, Bolzano belongs to a Catholic Austrian School.-- It opposed the German Idealist I-philosophies (I. Kant;-- J.G. Fichte, G.Fr. Hegel and Fr. W. Schelling), which gave rise to Subjectivism and, among other things, Psychologism. Edm. Husserl (WDM 45; 70), student of Brentano, discovered the forgotten Bolzano and worked out his main idea phenomenologically (‘eidetic phenomenology’).

I. Kant: ‘analytic’ and ‘synthetic’ judgment.

(1) ***Analytical judgment.***

‘Analytic’ would actually have to be ‘concept-analytic’. Is, in Kant’s language, “analytic” any judgment whose saying is a part of the subject.

Appl. model.

(1).-- ***Given:*** the geometric definition of a triangle (a polygon, characterized by three sides and three angles).

(2).-- “A triangle contains, invariably, three angles” is a concept-analytic judgment.

(2) ***Synthetic judgment.***

Synthetic’ should, in fact, be ‘reductive’. If the saying is completely outside the idea itself (in its definition), then there is only one way out : to verify by induction whether - to this idea - the followed property also belongs or not. If so, then one can make a judgment based on verification (‘synthetic’). For example: “The Earth is round”.

Conclusion.

Every concept-analytic judgment is necessarily true; every reductive judgment must, necessarily, be based on verification.

(2).-- ***The proposition (‘sentence’).***

The proposition or (judgment) sentence is the articulation in language of a judgment.

Compare with ‘idea’ (concept) and ‘term’ (WDM 241). - Certainly do not confuse with Bolzano’s ‘sense in itself’, which is the Platonic idea, in its judgment form. The proposition conceals Bolzano’s ‘sense in itself’. He is pronounced in it. This, after it has been, first, thought in the mind (mentally). The proposition or articulated judgment form consists of two or more terms and a statement (‘assertion’) concerning their relation (analogy; -- except in the tautological propositions (e.g., ‘A is A’), where total identity prevails).

Quantity of proposition.

Starting point the subject, which is either universal (‘all birds...’) or private (‘Some birds...’) or singular (‘Just one bird...’).

WDM 323

Quality of the proposition.

There are either affirmative or negative propositions. As already, higher, briefly indicated.

Further typologies.

Shrewd minds distinguish, further, propositions with either one or several subjects and sayings.-- More interesting is what is called "conditional" (hypothetical) propositions.--

(1).-- ***The categorical proposition***

The categorical proposition says, unconditionally, something from its subject term. ***Appl. model.--*** "I am coming."

(2).-- ***The hypothetical proposition***

The hypothetical proposition says the same thing, but conditionally.

Appl. model.

"In that case I will come" (veiled, implicit conditional phrasing,-- thanks to a conditional clause).-- "If that is the case, then I will come". -- Yet, with this, we anticipate the reasoning.

Note -- Appl. model.

J.H. Walgrave, Is Christianity a Humanism, in: *Cultural Life* 1974: 2 (Feb.), 147/ 156.

To that question, logically, three answers are possible.

(1).-- Christianity is a Humanism.

Of course: it depends on what precisely one understands by the terms 'Christianity' and 'Humanism'. Cfr WDM 213, where we discussed, very briefly, the complexity of those terms.

(2).-- Christianity is not a humanism.

(3).-- Christianity is in one sense, in another sense not a Humanism.

As Father Walgrave says, a proposition - "saying" is what he calls it - can be affirmative (affirmative), negative (negative), or restrictive (subject to reservation).

The matter is made all the more difficult by the fact that, now certainly, more than one interpretation of Christianity is in circulation.

(1) E.g. Secularist Theology will say that Christianity itself, taken in isolation, is already a form of 'Humanism', i.e. secularized worldview. In that case, 'it' Christianity (understand: precisely one interpretation of it) is simply a Humanism.

(2) Adhering, however, to Sacralistic Theology, the matter becomes more complicated. Sacralistic Theology recognizes

(i) the own autonomy of this earthly life, of course. Something is already evident from the fact that its first, middle, and last concern is a. to sacralize "earthly" life b. (for it is not sacred out of its own being).

(ii) But Sacralistic Theology recognizes only limited earthly autonomy.

WDM 324.

III.A. -- (IV).-- ***Reasoning theory*** (closure theory).

As already stated -- WDM 230 -- the third aspect of any philosophical logic is reasoning.-- It is invariably a hypothetical judgment.

Evidence theory (argumentation theory: theory of argument).

Bibl. st.:

-- *Ch. Perelman, Rhetoric and argumentation*, Baarn,1979;

-- *F. van Eemeren/ R. Grootendorst/ T. Kruiger, Argumentation theory*, Utr./Antw., 1981-2;

-- further, the new journal *Argumentation* (*An International Journal on Reasoning*), Vol. 1, No. 1(1967), Dordrecht/ Hingham (Ma., USA), which discusses all possible forms of reasoning.

'The reasoning in itself'.

Recall WDM 321 ('sense in itself'), where we introduced - in Platonic spirit - a strict distinction between the actually and strictly logical proposition ('sense') and the fact that it is either merely thought or also articulated in a language.

Since reasoning is only one kind of "sentence in itself" (a kind of conditional sentence in itself), this distinction applies, too, here.

F. van Eemeren et al, Argumentation Theory, 16, defines an argument (proof) as follows: "Argumentation is a social, intellectual, verbal (*op.:* expressed in language.) activity, -- which serves to justify or disprove an opinion, -- which consists of a constellation (*op.:* assembly) of statements and -- which is aimed at obtaining the assent of a reasonable judgmental audience."

One sees, immediately, that rhetoric-and not merely logic-is at work here (WDM 1; 12; 118). The fact that the authors, o.c., 27, say that the basic structure of argumentation is the closing speech or syllogism, shows that, hidden in the thought acts, the articulation acts and the communication acts, a reasoning in itself, in Bolzano's style, is at work. We are interested, here, only in the reasoning in itself.

Definition. - By *Ch. Lahr, Logique*, 509, this can be done as follows : "That thought operation, which consists in deriving **(i)** from one or more prepositional phrases, **(ii)** logically, **(iii)** one or more postpositional phrases is a reasoning."

It is evident that, as WDM 230 taught us, the comparative method is active in that derivation.

WDM 325.

Derivation or encompassing.

Reread WDM 231: 235 (implied); 240.-- The encompassment or implication is the condition of the derivation.

Appl. model.

From the prepositions "All teachers are duty-sensitive people" and "No teacher is duty-sensitive," one deduces, immediately, the after sentence "Either one or the other sentence is true." For the two prepositional phrases involve a contradiction (WDM 30), expressed in the after sentence.

Appl. model.

From the prepositional phrase "Some people are reliable" one deduces, immediately, the postpositional phrase "Some reliable beings are people". After all, there is "conversion," i.e., interchange of subject and predicate, expressed in both wording.

The preposition or prepositions contain the postposition. In other words, the subclause can be derived from it, precisely because it is implied by the preposition(s). -- They are, in fact, sentences in themselves (Bolzano).

Appl. model.

As already noted by S. Augustine, "If 1+3, 3+1,-- 2+2, then 4," even if no one has ever put those "sentences in themselves" or thought or expressed them in a language. This is - it has to be said - Parmenidean heritage. WDM 5. As a Platonic idea, that reasoning in itself is there,-- independent of any act of thought or expression. Totally objective.

Even every judgment (proposition) is an 'enthymematic' (implicit) reasoning.-

(1) In Aristotle1 language, "enthymeem" is an inexpressive reasoning.

(2) It is none other than Ch.S. Peirce, the Pragmaticist, who pointed out that, on close examination, it turns out that even every judgment involves reasoning.-- When I look outside and ascertain that it is snowing, there are at work in it, phrases like "The snow is falling down," "I ascertain this," "I look outside etc. I express this in a sentence like e.g.: "It is snowing". Therein lies the non-expressed sentence. But also : "If I am watching closely and, at the same time, want to be objective, then I should say :'It is snowing'. Yes, from the subject "the fact that it snows", I derive the sentence "It snows" (a synthetic judgment then).

A.-- ***The hypothetical sense.***

Bibl. sample :

-- *Alexius Meinong* (1853/1927; member of the Austrian School (WDM 69; 322)), *Ueber Annahmen*, (About assumptions), Leipzig, 1910-2;

-- *N. Rescher, Hypothetical Reasoning*, Amsterdam, 1964.-- A conditional or hypothetical sentence (= reasoning) has as its preface an assumption or hypothesis. This is a sentence whose "truth" is either doubted or whose falsity is unquestioned.

WDM 326.

Rescher, Hypothetical Reasoning, 1f., distinguishes, in that way:

a. problematic (uncertain) prepositional phrases (e.g., there are arguments for and arguments against)

b.1. paradoxical prepositions (that go against established opinion);

b.2. false prepositions (which, explicitly, are known to be false).

1. *The distinction and the resemblance.*

(a) Every reasoning is formulable in the form 'if..., then...'. Even that reasoning, which explicitly presupposes true prepositions.

(b) Strictly hypothetical reasoning presupposes that the if or prepositional phrase, in addition to being prepositional, is problematically paradoxical or explicitly false.

The hypothetical prepositional phrase is therefore introduced by e.g. "Supposing it were certain that" (problematic), "Let us assume anyway that" (paradoxical), "Even if it is false, let us - by assumption - assume that" (false).

Appl. model.

"Supposed that Belgium had only a Flemish population...".

"If Flanders were, for once, non-Catholic...".

"Imagine Agalev (the Greens) merging with the Socialists,...".

Conclusion.

(i) Such sentences make interesting logical exercises.

(ii) But, strictly logically speaking, it has no importance whether a preposition is either true or problematic, paradoxical or false. Logically, only the encompassment or implication (derivability) of prefatory and postfatory applies.

2. *Apodictic or "dialectic" and rhetorical.*

Aristotle distinguishes, under that point of view, three types of reasoning.

(i) ***Apodictic*** reasoning has perfectly certain (proven, provable) prepositions, from which follow perfectly certain, unprovable postpositions. They are the core of every science.

(ii) The '***dialectical'*** reasoning assumes 'probable', 'plausible', 'reasonable', yet not perfectly certain prepositional phrases and arrives at mutually contradictory derivations (post-sentences). So that no certainty exists.

(iii) ***Rhetorical*** reasoning assumes the same 'probable' prepositions, but arrives at equally probable postpositions.

Conclusion.-- The dialectical and rhetorical reasonings are, therefore, strictly hypothetical reasonings (with uncertain prepositions).

WDM 327.

Applicable models.

The hypothetical sense-whether broad or strict-may seem a purely theoretical matter. Yet it is not.

a.-- *Subject science as 'hypothetical knowing'*.

Both socially-minded and green politicians have engaged with the implications of the professional sciences (represented in so-called "technocrats").

Giorgio Del Vecchio, Droit et économie, in: *Bulletin Européen*, 1962 (Jan. févr.), 10/12, quotes his friend Luigi Einaudi (1874/1961; economist; president of the Italian republic (1948/1955)). Einaudi claimed that state economics (economics) was **a.** a hypothetical and **b. a** partial science.

In other words: the economist, as a scientist (positive or factual), does not say to his fellow men: "You should (ethically, politically) act in this way or that way". In that case he would no longer be doing economics but ethics or, even, politics.

Professional science - so they say - is "value-free" (understand : does not take into account ethical or political or other, non-economic values). What it does say is: "If you - ethically, politically - act like this, then your actions will have such and such economic consequences (given the economic laws)". Behavioral rules in an ethical, political or other sense are not given by professional science. It only gives indications as to the implications (elaborations consequences; WDM 227: Pragmaticism) of that supposed behavior.

b.-- *Simulation game* ("gaming simulation").

A. Crettenand, Colloque scientifique: Eh bien, jouez maintenant, (Scientific symposium: Well, play now,), in: *Journal de Genève* 31.07.877

This type of play is already widespread in the USA, but is gaining ground in Europe.

After the fashion of the audiovisual and the top fashion of the micro-ordinator the simulation game, which is busily practiced by economists, construction engineers or military.

A small informational program, for example, calculates a politician's chances of being elected, based on the city, parties, women, religions, etc., which - as factors - influence the election. A program takes all the data into account. The player/player only has to play with it to see what implications (results are/will give her (output). In other words, computer science as a calculation of all the consequences (implications) of your choice, your action, verified in a playful way.

Science of it: 'audio-video-matics'.

WDM 328.

Note.-- One can view the preposition, the assumption (strict or broad), also as a (necessary and sufficient) ground ("reason"; WDM 8).

This gives rise to the tendency for all assertions (knowledge) to be founded, to be 'grounded', to be justified. As what, traditionally, as obvious, assumed.

Since 1925, with *G.E. Moore* (1873/1958; a philosopher of linguistics), *A Defence of Common Sense*, and since 1934, with *K. Popper* (1902/1994; epistemologist), *Logik der forschung*, one has been diligently engaged in fundation(al)ism - or fundamentalism-criticism. One no longer considers it necessary, indeed impossible, to give, of every postphrase (assertion), a proper preface (foundation, justification, proof). This implies that we reason, but without sufficient prepositions or presuppositions. Without foundations. This points to a profound crisis in Modern Enlightened Rationalism. Platonism always sensed this, as WDM 22vv. shows: the forward and backward dialectic proves this.

B.-- ***The concluding statement*** (syllogism).

Bibl. st.:

-- *Ch. Lahr*, *Logique*, Paris, 1933-27, 515/532;

-- *Tae-Soo Lee, Die griechische Tradition der aristotelischen Syllogistik in der Spätantike*, (The Greek tradition of Aristotelian syllogistics in late antiquity,), Göttingen, 1984.

And very many other works.

Note.-- 'Sullogismos', closing speech, is related to 'sullogos' or, still, 'sullogè', collection. 'Sullogizein' means 'collection'. Indeed : the core of all real reasoning turns out to be the closing speech, at least implicitly (enthymematic).

Simultaneously compare more than one prepositional phrase such that, from it, a postpositional phrase is derived in closing (logically sound) fashion. Closure speech. Cf. WDM 230.

Definition.

Lahr defines as follows: "A reasoning consisting of three propositions,---so arranged that, from the first two, called 'premises' (prepositions), the third 'conclusion' (conclusion, derivation) follows." (Logique, 515).

Categorical and hypothetical syllogism.

(1) "All living things are determined by their environment. Well, human beings are living beings. So humans are determined by their environment" That is the categorical formulation.

(2) "If all living things are determined by their environment and humans are living things, then humans are determined by their environment." This is the hypothetical formulation.

WDM 329.

Or still:

(1) "The whole human being consists of incorporeal soul, fine material soul body and coarse material, biological body. Well, the Pop actress Tina Turner is a (whole) human being. So the Pop actress Tina Turner, as a whole human being, consists of a incorporeal soul, a fine material soul body and a coarse material (biological) body."

(2) "If the whole human being consists of incorporeal soul, fine material body (soul body) and gross material (biological) body and the Popactrice is a whole human being, then it consists of an incorporeal soul, a fine material body and a gross material body."

1. The two applicative models are two typical syllogisms : the first is collection doctrine ('all'); the second system doctrine ('whole'). Cfr WDM 86 (collection); 67 (system);-- 226 (world: all; whole).-- The ideas 'set' and 'system' are the ground of reasoning.

2. *G. Jacoby, Die Ansprüche der Logistiker auf die Loqik and ihre Geschichtschreibung*, Stuttgart, 1962, 59f., points out that many a logistician believes that, traditionally-logically, there is an essential distinction between a categorical and a hypothetical syllogism (one belongs to the predicate calculus, the other to the propositional calculus).

Logically, however, there is no distinction. The logician, as a mathematical reasoner, pays attention to the formulation. The logician pays attention to "the sense in itself" (Bolzano; WDM 321; 324).

Well, as a 'sentence in itself', a categorical syllogism is nothing but a hypothetical syllogism expressed in independent sentences. Decisive ('relevant') to the pure, Platonic logic, are

a. The quantity (all or whole vs. some or just one (specimens or parts)) and

b. The quality (affirmative / negative; WDM 322v.). "In this sense, J.Fr. Herbart (1776/1841) wrote that, in logic, all

(1) according to their language form completely categorical judgments,

(2) notwithstanding, in their true essence, are hypothetical judgments (...).

(*G. Hartenstein, Hrsg., F.Fr. Herbart, Sämtliche Werke*, (Complete Works,), Hamburg/ Leipzig, 1850/ 1893, xxii, 506). Rightly so. For logic is concerned with consistent (conclusive) reasoning, i.e., identities between imposts." Thus Jacoby. Cfr WDM 82 (analogy). The basic identities are set and system.

WDM 330

At least two prepositional phrases (premises).

1. *G. Jacoby, Die Ansprüche*,15/17 says that every syllogism has at least two prepositional phrases. The reason is identitive: from a single (pre)sentence, only that (pre)sentence itself follows.

He is volitional with himself. Such a statement is tautological (says the same thing again).

2. However, it may appear that there is only one preface. Resume conversion, WDM 325.

"If some people are trustworthy, then some trustworthy beings are people."

Here is an "enthymeme" ("en.thumema"; "thumèma" is, in ancient Greek, "inner thought"). The rules of conversion - a logical delicacy, to which, here, we will not go further - say, among other things, that "a private preposition, when its terms are interchanged (its subject becomes proverb), is transformable into an equally private postposition."

People like Father Lahr call these dual reasonings "immediate deductions" ("deductions" in the sense of "derivations").

But a G. Jacoby notes, herewith, rightly, that this is appearance. In fact, in depth (the background; WDM 168v.: figure/ background). a real syllogism is present, with three sentences. "If a subset of a whole (universal) set coincides with the subset of another universal set, and 'some people' are a subset of 'all reliable people', then 'some reliable people' (subset) are identical with 'some people' (subset)."

The same is true of the contradiction (including the contradiction; WDM 325): "If a universal collection and its radical negation are a contradiction (in the form of a contradiction) and if, at the same time, all and no teachers are duty-sensitive, then 'at the same time all and no teachers' is a contradiction (in the form of a contradiction)."

Put more simply, whoever sees the two sentences together and whoever knows what contradiction is, sees, immediately, that both sentences are precisely one application of it. Knowing what contradiction is, is the concealed, but active preposition.

Conclusion.

Jacoby is right: a syllogism, the core of all possible valid reasoning, is always threefold. There are no "immediate derivations" except in the form of an enthymeme.

Again: Bolzano (WDM 321; 324;3 29) is right! 'The sentence in itself' counts,--not the words!

WDM 331.

The summative foundation.

We revisit the schemata of Jan Lukasiewicz.

Deduction.-- "if a (preface), then b (postphrase). Well a. So b".

Reduction.-- "if a (preface), then b (postphrase). Well b. So a".

But we don't just rehash. We charge for harmology.

(a) The idea 'structure' (partial identity, analogy) (wdm 86) is twofold:

distributive (collection-learning theorem, "metaphorical") and collective (system-learning theorem, "metonymical") (WDM 88v.).

(b) To these two totalities correspond: the collection ('all') and the whole (system/system: 'whole') (WDM 86v.; 143 (totalization); 226v . (Platon's world).

Artery of harmology is summative induction or totalization (WDM 125v.).

We can schematize them, in Lukasiewicz's style, as follows.

A. *"If AA, then AG"*

(If all separately, then all together, i.e. with respect to one or more common (identical) traits or properties).

Every time someone totalizes, the preface "If AA, then AG" becomes topical. Jantje, on a summer rock, counts his marbles:

(1) he begins with just one (singular);

(2) he counts on (more than one, privately);

(3) until he recharges (universally) the last, right, one.

Unconsciously (enthymematically) he assumes. "If AA, then AG.

So, AA.-- So AG". In the 'so sentence' (the 'minor' in traditional language), Jantje expresses the application of a universal rule. That universal rule is called, traditionally, 'maior'.

B. *"If AF, then AM"*

(If all actual cases, then all possible).

This is the amplifying or expanding induction. -

Cfr WDM 126: if all Actual water, then also all Possible water.

C. *"If AA, then AX. AY, AZ".*

(If all separate facts, then all X, all Y, all Z).

This is the statistical induction (WDM 220).

If Johnny, instead of looking at all without more, classifies his marbles (WDM 246vv.), he sees, out of the total of seven, two blue (AW), three green (AY) and two white (AZ). This is 2/7, 3/7 and 2/7. If Jantje, haphazardly, pulls out of his pocket one marble, the odds are correspondingly.

So much for the inductive prelude or pedestal. It is the application of an enthymeme ('If AA, then AG. Well, AA. So AG').

WDM 332.

Compare, now, the prepositional phrases of Lukasiewicz's scheme.

Deduction and reduction

Deduction and reduction begin, both, with:

"If all the pieces of phosphorus ignite below 60° C., then just one piece (singular) or some (more than one, at least one: particulate)".

One sees, in a sense, the reverse thought act ("sense in itself") of summative induction and its variants. There it was, "If all separately, then all together."

The de- and reduction begins with: "If all (jointly), then just one, more than one (some)".

One sees the common (identic) pedestal, namely, the intuition (insight) that constitutes the essence of collection and system, but sometimes de- or reductively, sometimes inductively. In both cases summative or totalizing thinking is the basis.

Note.-- One can also phrase a syllogism differently.

Appl. model.

Maior (first preface): "For all collections, resp. wholes (= systems), if they have more elements (parts, subsystems) than others, they are 'greater' 'than' those others."

Minor: "Well, the number (number) 'three' exhibits more elements ('units') than the number 'two'."

Conclusion: "So for the number (number) 'three holds, that it is greater than the number (number) 'two'": Symbol shortened : 3 > 2.

System Learning Variant.

The Middle Ages distinguished an "omne" (collection) from a "totum" (system).

Usually the examples, in the textbooks of logic, logistics, are just collection theory.-- Behold a systems theory diagram.

(1) "If all the parts (integrating parts, sub- or hyposystems) of a "system, then the whole system."

(2)a. Deduction.-- "well, the whole system. So all the parts".

(2)b. Reduction.-- "well, one or some parts (subsystems). So the whole system".

Appl. model.

"Where there is smoke, there is fire."

Cast in syllogistic form: 'For all effects have a necessary and sufficient reason (= ground; WDM 183; 253) ('cause' called). Well, smoke has as its 'explanation' (cause) fire. So for all smoke applies that it has fire as its cause, -- in common sense language :'Where there is smoke, there is fire'".

Note that the connection 'fire/smoke' is one type of systemic connection. It is not the similarity, but the coherence (collective structure) that works here.

WDM 333.

So one can also reason systemically directly: Well, one part (subsystem). So the whole system (or some other parts)".

A fire consists of fire, smoke, ash, among other things. These are three integrating subsystems of the whole (coherence) 'fire'. "(...).

Minor: well, one subsystem, namely smoke.

Conclusio: so also another subsystem, namely fire".

In the language of Common Sense: "Where there is smoke, there is fire". There is an enthymeme or understated syllogism.

Applicative Model.-- (2)

"A feather! That's from a bird".

The teacher, out for visual instruction in a beautiful summer forest, directs her children's attention to a feather lying there.-- "What's that?" she asks.-- "A feather, miss," the students say. "Da' s of a bird" they add.

It is clear that the underlying reasoning is; "(...). Well, one part (subsystem). So the whole system". The children, in their prelogical stage (i.e. in a stage, where they do not yet think reasoned logically), intuitively grasp the systemic intuition: "Where there is a plume (part), there is - somewhere - a bird (whole)". Notice the analogous sentence structure with "Where there is smoke, there is fire".

Applicative Model.-- (3)

Logicians note that sometimes a line of reasoning can encompass only two sentences.

Thus David Hilbert (1862/1943; German mathematician): "If there is a son, then there is a father."

Common sense, analogous to what precedes, we could transform: "Where there is a 'son', there is a 'father'": It is immediately abundantly clear that, here too, systemic coherence is surreptitiously put first: father and son are, in the biological order, "correlative" because they are in a mutual relation (WDM 154).

So that, with *G. Jacoby*, *Die Ansprüche*, 54, one can say: there is no 'son' without 'father' and vice versa. "(...). Well, one part. So the other part".

Applied: "Well, the 'son'. So the 'father'." -- That a Hilbert is mistaken, syllogistically, is because, reasoning mathematically-logistically, he pays attention to the wording and not to 'the sense in itself' (Bolzano: WDM 321). He does not, therefore, see the enthymeme.

Behold some models, in which one variant of reasoning, the systems theory-stellar, shows its power.

WDM 334.

Note -- The ‘figures’ (‘schemata’) of the syllogism.

One can swap the subjects with the sayings and vary the quality (affirmation/ negation) or quantity (universal/ private/ singular) in the components (prefaces and postfaces) of a syllogism (cf. contradiction and conversion; WDM 325; 330). This gives den a mass of combinations. We skip this ‘toy’ for logicians and logisticians.

Note - Irregular syllogisms.

The full pronounced form of a syllogism is not always necessary.

(1). The enthymeme or subsumed syllogism, of which, above, numerous examples, proves it.

(2). Polysylogism.

This is a concatenation of syllogisms.

“That which consists of no part (in the material sense) cannot possibly disintegrate. Well, the soul of man (in its incorporeal sense) does not consist of any material part. So the incorporeal soul of man cannot possibly disintegrate (“die”).-- Well, what cannot possibly disintegrate is immortal. So the human, incorporeal soul is immortal”.

The ‘conclusio’ of the first syllogism is the ‘maior’ of the second.

(3). ***The sorites***.

This is an ‘accumulation’ of syllogisms,---such that the saying of the preceding becomes the subject of the following.-- For example, the fox, who ‘reasons’, in one of Montaigne’s (1533/1592) works: “This river fizzes. What fizzes, moves. What moves is not frozen shut. What is not frozen shut cannot carry me. So this river cannot carry me”.

(4). ***The dilemma.***

WDM 30 gave us the “primal dilemma” or prototype of all dilemmata.

Dilemmatic is a syllogism, when it is twofold but with one afterthought.-- The barbarian general, in wartime: “Either thou stoodst on guard or thou didst not.

(a) If you were on guard, you have not done your duty.

(b) If thou wast not on guard, thou didst fall short. In either case (understood by martial law) thou deserved death”.

Paralogical or sophisticated syllogism.

Abuse can be made of anything (WDM 31).

“Either our soul disintegrates with its body. In that case it no longer experiences anything,--not even some calamity.

Either she survives. But then she is happier than before.

Consequence: death is not to be feared (Epikouros of Samos; WDM 232).

C.-- *The three types of closing speech.*

(1) *Structurally speaking*

Structurally speaking, there are 4 keyword figures (placements of subject and proverb) X 64 'modes, (quantity and quality variants) = 256 keyword forms (= types).

'Structural', here, in the sense, which we touched upon WDM 207; 209vv. (aprioric possibilities,--basis of empirical choice).-- Of those 256 possible syllogism forms

(i) only 19 are logically justifiable and

(ii) only six are used continuously.

Which proves what wealth of ideal, idealistic possibilities our 'mind' possesses, before it goes to work practically, empirically. Or, as Kant once said: our mind possesses many 'empty' insights, which are 'made true' by few 'blind' applications.

Bibl. sample : *Ch. Lahr, Logique*, 520.

(2) *Charles Sanders Peirce,*

the Pragmaticist (WDM 8), in a little article, entitled *deduction, induction and hypothesis* (in *Popular Science Monthly* 13 (1878), 470/482), explains our limited empirical choice in a particularly fruitful way, which durably proves the power of Aristotelian syllogism.

1.-- *The deductive syllogism.*

The deductive (also called : analytic (WDM 322)) syllogism is, in Peirce's view, the basic form.-- It can, traditionally, be schematized as follows: 'S is M; well, M is P. So S is P'. Or still:

S M
MP
S P

Appl. model.

All people die. Well, Enoch and Elias were people. So they die.

Which is contradicted by the Bible, where it claims that they did not "die," but were "taken from this earth, alive.

As we, WDM 326, saw, logically, only the encompassing applies. the epistemological test of prepositions is - strictly speaking - beyond any purely logical view.

Peirce's terminology.

(1) The minor, in Middle English, is called Peirce the rule (regulatory model).

(2) The minor, in which the singular or private case comes up, he calls the application (applicative model).

(3) The conclusio, which directs the rule to the application, he called the result. In particular: the (pragmatic, pragmaticist) result of the syllogistic mode of reasoning. From which its usefulness must appear. Typically American.

WDM 336.

Note.-- Peirce too, like all true logicians, points out the distinction between "the sense in itself" (Bolzano; WDM 324) and the articulation.

Appl. mod.

(1) ***First wording.***

"All quadrangles are mathematical figures. Well, no triangle is a quadrilateral. So some mathematical figures are not triangles;-

(2) ***Second wording.***

"All quadrangles are different from triangles. Well, some mathematical figures are quadrangles. So some mathematical figures are not triangles; in which Peirce, again, recognizes the scheme "rule/ application/ result."

The "Barbara" figure.

For the reason that the Middle Ages names of the syllogistic figures (and its 'modes') are still in use, here is Peirce's little example.

Rule: all humans are mortal.

Application: Enoch and Elias were human beings.

Result: Enoch and Elias were mortal;

If one wants, now, to deny this result, without denying the rule, then it becomes the "Baroco" figure:

Rule: all humans are mortal;

Negate of application: Enoch and Elias were not human beings;

Negate of the result: they were not mortal.

If, however, one wants to disavow the result, without disavowing the application, one must, consistently, disavow the rule.

Negate of the rule: some people are not mortal;

Application: Enoch and Elias were human beings;

Negate of the result: Enoch and Elias were not mortal.

This is called the "Bocardo" figure.

Which shows that medieval syllogism was not so 'Scholastic' imaginary after all. Bocardo and Baroco are, in passing, 'indirect' modes of deductive syllogism.

2.-- ***The inductive (a type of 'synthetic') syllogism***.

As highly empiricist-experimentalist-oriented logicians, we have encountered induction numerous times.

(1) a singular case.-- this is the singular sample.

We take, from a bag of beans (= collection ('all')), of which we know that 2/3 of the beans are white, 'at random', (= 'randomization' or the 'on-well-all-it-out method,-- haphazard method), just one bean.

Then the probability that this one bean (statistical induction (WDM 331) is white (2/3 - probability) is deductively provable.

WDM 337.

Rule: all beans in this bag are 2/3 white.

Application: exactly one bean was taken haphazardly from this bag (so that the 2/3 chance of it being white, in the long run, coincides with the 2/3 ratio of beans).

Result: Just one bean was taken haphazardly from this bag so that, in the long run, in 2/3 of all cases, they must be white.

(2) ***A private case***.

This is the private sample. We take, on good fall out, a handful (= private collection) from the bag.-- Which is articulable in an analogous reasoning form. The inductive scheme.-- We simplify.-- Comparatively:

Deductive scheme.

Rule: all beans in this bag collection/system) are white.

Application: just one or some beans were in this bag.

Result: right one or some beans are white.

Inductive diagram.

Application: just one or some beans were in this bag.

Result: right one or some beans are white.

Rule: all beans in this bag are white.

Conclusion.-- From an application (applicative model: right one, some), to which a trait (WDM 125v.) is assigned (here: white), one decides on the rule (regulative model).

That is why one, rightly, calls the induction a generalization (from just one or some one decides on all; WDM 126: amplificative induction. also called : extrapolation. In Peircian terms: from the application and the result (of deduction) one decides on the rule.

3.-- ***The abductive (second type of 'synthetic') syllogism***.

Note: In some classical textbooks, "abduction" is called the indirect proof (from the incongruity of the counter model).

'Abduction' is, then, the translation of the Antique Greek 'ap.agogè' (abductio). Cfr WDM 34: 43 (application); 55 (application); 232 (application); 270 (application).

Peirce introduced, thus, a new meaning.

(A) ***Observation***.

Supposed (= given) that I find, in a storage room, a collection of bags, in which a variety of beans are filled.

On a table is a handful of (subset) beans. They are white.

The question (the wanted one) arises, "which of these bags did these white beans come from?".

(B) ***Lemmatic-analytical method.***

I rightly assume that the handful of white beans came from one of the bags, full of beans, located in the storage room.

WDM 338.

1. But... I don't even know that for sure; a representative/representative may have come, brought a handful of beans with him and left them on the table or forgot or intentionally. E.g. as a sample of what he/she is selling.

2. But, in any case: it may very well be (modality) that the beans, on the table, come from one of those bags. This is called, very scientifically, a hypothesis. In platonic terms: a lemma. Cfr WDM 22.

The analysis or testing of our conjecture (= hypothesis).

It consists of:

(a) to design a little experiment: if I - one by one - open those bags and check whether, at least, one of them contains only white beans, then I have a confirmation (= verification) of the hypothesis that the beans, on the table, come from one of the bags present in the storeroom. in learned terms : the deductive reduction.

(b) The experiment conducted consists in finding at least one bag full of white beans, which are very similar or even totally identical to the handful.

Such a thing is then called, more genteelly, inductive or peirastic reduction. This is either verification or falsification (negative testing) of the deductively formulated hypothesis, above.

Conclusion.-- Compare with the reductive method, in its scheme, WDM 127 (Experimental Variant); 135 ('operative method') ; 224 (Experimentalism).

The hypothetical ('abductive') syllogism.

In deductive terms: decide from the rule (regulatory model) and the result (a knowledgebase) to the application (applicative model).

Appl. model.

Rule: all beans in this bag are white.
Result: well, this handful of beans is white.
Application: so this handful of beans (on the table nl) comes from this bag;

Note.-- It is seen that neither the inductive nor the abductive form of syllogism possesses the absolute evidential value of the deductive form.

In terms of modal ontology (WDM 41v.):

(i) the deductive syllogism is analytic (absolutely evidential);

(ii) the in- and abductive syllogism is only synthetic (relative or limited evidential value). A generalization is only limitedly verifiable (induction).A hypothesis is certain only after verification; before that verification it is probable (= possible), - where deduction is necessary.

WDM 339.

Schematically: the totality of all reasoning types - according to Peirce - is overview as follows. -- Reasoning (= syllogism): deductive (analytic), inductive (synthetic), abductive (synthetic).

Comparative Overview.

We reiterate what we have set forth, above

(A).-- *Deduction* (analytical)	***All the*** beans, in this bag, are white. ***This*** handful of beans comes from this bag. ***This*** handful of beans is white.
(B).-- *Induction* (synthetic)	***This*** handful of beans comes from this bag. ***This*** handful of beans is white. ***All the*** beans, in this bag, are white.
(C).-- *Abduction.*	***This*** handful of beans is white. ***All the*** beans, in this bag, are white. ***This*** handful of beans comes from this bag.

Note -- One can see that the reductive method (WDM 2) contains all three types of syllogism (= reasoning). But starting with the hypothesis (abduction). The deduction, in this, is focused on the experiment (testing): if hypothesis (abduction), then experiment. The induction is the performance of the deductively derived and prepared experiment.-- We owe this insight, among others and in the first place, to the Schellingian (WDM 27) Peirce.

As an aside, Peirce rated, also, the Scholastics (he was a conceptual realist) very highly.

Note.-- Comparison with Jan Lukasiewicz's outline.

WDM 2 gives us, at first glance, only the very classical dichotomy of "de- and induction. -

deduction.-- If A (= prephrase), then B (postphrase).-- Well, A. So B

reduction.-- If A (=prephrase), then B (postphrase).-- Well, B. So A".

Either from all to some or just one. Either from some or just one to all. Either deduction or induction (generalization).

But note: there is a furtive abduction in Lukasiewicz's total preposition formulated in the hypothetical form, "If A, then B." -- But this refers us both to WDM 325vv. (the hypothetical sentence) and to WDM 2 (Jan Lukasiewicz's scheme).

Note.-- The three configurations (WDM 114) ***can be "placed" as follows***:

Deduction. -- Rule and Application gives Result. - Rule ^ Application = Result.

Induction. -- Application and Result gives Rule. - Application ^ Result = Rule.

Abduction. -- Result and Rule gives Application. - Result ^ Rule = Application.

III.B.-- ***Methodology (methodology).***

Introduction.

1. '***Method***' (from the Ancient Greek 'methodos', the way to a destination) means, generally speaking, "the collection and system of means, which, according to the principle of economy ('economics'), are most appropriate to achieve the end (destination)."

Thus, the idea of "purposiveness (finality) governs any method or approach. In short: the minimum of means for the maximum of ends.

2. '***Method***' - in logic and the science of science (including scientific philosophy, theology, rhetoric) - means, according to *I.M. Bochenski, Philosophical methods in modern science* , 19: "the theory of the application of the logical laws to the different domains."

So that one can, rightly, speak of "applied logic". The 'different domains' (WDM 239), as regards subject science, we briefly mentioned, namely logic (resp. logistics) and mathematics (including metalogic and meta-mathematics), on the one hand, and, on the other, the empirical-experimental sciences. They cover, each, a well-defined domain of 'being(s)' (= reality).

Just as, for example, philosophy or theology and rhetoric - to limit ourselves to classical - traditional 'domains' of the same reality - each cover, also their typically - own 'domain' -- all, that is, with their own methods.

Nevertheless, one can, to some extent, distinguish a universal method amid the singular methods. that is what this introduction to general methodology is about. About nothing more.

Note.-- In a more philosophical sense, one can, with Fr. Ch. Lahr, Logique, 548, define 'method' as follows : "The collection (*note:* meaning 'and the system') of methods ('processes'), which the human mind (*note:* reason and reason) should apply in the work of research and argument (proof), in so far as these are attuned to truth."

In contrast to - WDM 71/73 - thinkers, who, as a matter of principle, as skeptics, consider all attainment of really true insights, also in a scientific context, for impossible, not to say "undesirable" (they do not want to be bound to any truth, in conscience, and, thus, "free"), thinkers like Lahr put truth as the goal of method first.

WDM 341.

III. B.-- (I).-- ***Epistemology on subject science.***

Introduction.-- WDM 71/73 dwelt on the ontological idea of 'truth'. -- Professional science - alongside philosophy, theology, rhetoric - is a form of truth acquisition. Therefore, before setting out an ultra-short method theory, an even shorter word about 'professional science', an unmeasured reality, since the Enlightenment Rationalism, which R. Descartes (1596/1650; founder of Modern professional philosophies) - together with John Locke (1632/1704; founder of the Enlightenment, in the Anglo-Saxon world) - deployed.

Bibl. St.:

-- *Bridgman, The Logic of Modern Physics* (1927-1; 1960-2);

-- *K.O. Apel, Szientistik, Hermeneutik, Ideologiekritik* (*Entwurf einer Wissenschaftslehre in erkenntnisanthropologischer Sicht*), (Scientistics, Hermeneutics, Criticism of Ideology (Draft of a Theory of Science in an Epistemological-Anthropological Perspective),), in: *K.O. Apel u.a., Hermeneutik und Ideologiekritik*, Frankfurt a, M., 1971;

-- *Fr, Guéry, L' épistémologie* (*Une théorie des sciences*), in: *A. Noiray, dir., La philosophie*, Paris, 1969-1; 1972-2, t. I, 135/178.

-- and a mass of other texts, of course.

(1).-- *Ch. Lahr, Logique*, 534, defines -- with *Francis Bacon* (1561/1626; '*Novum organum scientiarun*' (1620) -- as follows: "knowledge o.g. insight into causes", "Vere scire: per causas scire" (according to Fr. Bacon; WDM 196vv.; esp. WDM 198 (relationship cause/effect)). "To know truly and truly - so reads one translation - is to have insight into the causes."

This is causal induction one of many variants of the Antique Greek idea "true knowledge is knowledge of what governs a given (its principle; WDM 7)." Well, Bacon's 'cause' is one of the 'principles', which governs a phenomenon (here: effect).

The causal or causal induction is, with Bacon and Lahr respectively, central. Cf. WDM 253.

(2).-- Fr. Guéry's idea of science can be summarized as follows.

Positive ('firm', i.e. based purely on generally determinable facts) science is, essentially, the result of an 'abstract' process (similar to Husserl's 'reduction').

A -- ***Its 'material' (= undefined) object*** is firmly delineated against the whole of the rest of transcendental reality (this dichotomy is essential,-- whether it be configurations, cybernetic feedback, influence of the unconscious, Speed of Light, rhythm, number operations etc.).

WDM 342.

B.-- ***The 'formal' object*** (= the viewpoint, under which the 'material' object is viewed, includes:

a.-- a1. description, a2. statement (hypothesis) and a3. test of the statement; b.-- whereby these three acts

b1. proceed intersubjectively (the professional science community - not the individual subject - is the actual arranger) and

b2. be secular (not going beyond this visible and tangible world) delineated.

Note.-- As we saw it, WDM 271/281 (permissibility of concepts), e.g., transempirical statements and verifications are outside the strict scientific world,-- this, o.g., the strictly 'inner-worldly' character of all strict science.

(3).-- *I.M. Bochensky, Philosophical Methods*, 21/23, defines "science" as follows.

(a) Subjectively, 'science' is a 'systematic knowing' (i.e. an operation of the mind, of a rational -- reasonable nature, -- which moreover proceeds 'systematically', i.e. method-consciously; WDM 196/227 gave us, of this, seven different examples).

(b) Objectively speaking, science is a "system of judgments (judgments)". where Fr. Bochenski strongly emphasizes its intersubjective character (cf. the 'sensus catholicus' (the opinion of if possible all scientists) of Ch. S. Peirce or also. 'the interpreting community' of Josiah Royce).

Note.-- Does one emphasize, as Bochenski does, the systemic nature of scientific statements (WDM 87v.), one is, inevitably, confronted with what is called "scientific theory.

P. Lahr, Logigue, 598s., describes the place of a scientific theory, within actual science, as follows.

"If a hypothesis is verified by facts, it acquires the degree of scientifically proven law. (...).

If, however - and this is quite common in the history of science - the verification does not succeed completely, (...) then a collection (*note:* subverting 'system') of laws, all of which have been more or less verified, comes into being, which is based on a common hypothesis (explanation). This is called a "theory" or "system". For example, Laplace's system. Or the 'theory of evolution'". Cfr. WDM 326 (apodictic, -- dialectic, rhetorical).

WDM 343.

Bibl. sample : *Alan Chalmers, What is called Science*? (On the Nature and Status of Science and Its Methods), Meppel/ Amsterdam, 1981 (work, which systematizes the four "great epistemologists," Karl Popper (1902/1994), *Thomas Kuhn* (known for his *The Structure of Scientific Revolutions* (1964 (Ned. vert. Meppel, 1972) Imre Lakatos (1922/1974) and the Dadaist Paul Feyerabend (1924/1994))).

Central to this is theory formation (its emergence and ongoing developments). According to A. Chalmers himself, theories are constructions (products of the mind). - Apart from reality: they reflect reality only insofar as it comes through in the very praxis of scientific inquiry. Nothing more.

Also: Science of Science (An International Journal of Studies on Scientific Reasoning and Scientific Enterprise), Dordrecht (from 1985).

And a mass of other texts (books, articles), of course.

Note -- Internalism/ externalism on science theory.

At the 32nd Flemish Philologists' Congress (Leuven, 1970), internal questions (the so-called what and how-questions, i.e., understanding and method) were addressed alongside external questions (the so-called why-questions, i.e., the ethical-political consequences of the humanities pen).

One also finds this duality among English epistemologists. And certainly among e.g. Marxist dialecticians. Indeed: science is one; its effects on life and our living environment is two (WDM 316/ 318: ecology).

Romanticism, with its emphasis on life, was, in this, in contrast to Enlightened Rationalism, which thought unilaterally internalist (and viewed the external aspect purely favorably), most certainly groundbreaking.

III.B.-- (II).-- ***The two basic methods.***

WDM 2 (deduction/reduction) already gave us them in an extremely abbreviated form. WDM 339, e.g., returned to that.-- WDM 331 (summative foundation) gave us both the set theory and the system theory variants. So that - now, on that - we do not have to go into it any more.

Note *--* ***The comparative (comparative) method***.

WDM 104/116 (harmology is possible only o.g. comparison) taught us the basis of both deductive and reductive methods, namely, comparison.

WDM 82/227 is one long, sustained piece of evidence for the proposition that all method, fundamentally, is comparative method.

WDM 344.

Note.-- One does not think, now, that our thesis is "revolutionary"! One looks at e.g. *Ch. Lahr, Logigue*, 550/556 (la methode generale: l'analyse et la synthese).

1. "The analysis ('ana-lusis'; I dissolve into its parts) is the disintegration of a whole into its parts; the synthesis ('sun-tithèmi-', I put together) is the (re)composition of the whole, which was disintegrated by the analysis."

Replace both by "collection" and by "system" (which is precisely Lahr's intention), and thou hast the harmology, as we designed it higher.

2. "One distinguishes between and 'rational' analysis and synthesis and experimental analysis and synthesis."

The rational applies concepts or truths (...). The experimental edits extramental realities.

Lahr clearly sees that comparison is at work both in mental and in extramental methods.

The schedule of jan lukasiewicz.

I.M. Bochenski, Philosophical Methods in Modern Science, 93/95 (*two basic forms of inference*), is of the opinion, with the Polish logician Lukasiewicz, that "all argumentation is divisible into two great classes," namely, deduction and reduction.

If A, then B, Well A; therefore B. ***deduction***	If A, then B; Well B; therefore A. ***reduction***

The relation (= analogy) between 'A' (first preposition) and 'B' (first postposition) is that of either all to some (just one) or whole to some (just one) parts.

E.g., "If all girls are sweet, then also some (just one) girls"; "if all the girl is beautiful, then also some (just one) part of it".

In other words: the distributive and the collective (collection-learning or system-learning) comparison of the totality (collection/system) and its elements (members, parts). - Cfr. Platon's world or cosmos idea (WDM 226v.).

Fundamentally, the logician and method-conscious person analyzes ('synthesizes') one or another 'world' as an ordered whole. This is, apparently, the ground intuition, which is pronounced in Lukasiewicz's scheme.

To proceed methodically is to orderly disassemble and reassemble the entire cosmos or a sub-cosmos of it. Fundation(al)ism/ phallibilism.

Since 1925 (G.E. Moore (1873/1958)) and 1934 (K. Popper), accountability theory, concerning science, has been central.

WDM 345.

(1). ***The fundationist*** (also: fundamentalist) believes that justification is only fully itself, insofar as it argues, on infallible grounds (of a deductive or reductive nature), without error.

(2). ***The phallibilist*** (WDM 14), of which the Paleopythagorean is one of the possible prototypes, believes that the ideal of the fundationalist is at most a working hypothesis, an aspiration; nothing more.

Chr. Hookway, Peirce, le fondationalisme et la justification des connaissances, in: *Philosophie* (Peirce, fondationalism and the justification of knowledge, in: Philosophy), (Paris), 10 (*printemps* 1986), 48/68, teaches us that Ch. S. Peirce (1839/1914) believes that the explorer, the pioneering scientist,

(i) does, for the time being, be fallible (= fallibilism),

(ii) but, in the long run, can achieve flawless results (= fundationism).

The great advantage of Lukasiewicz's scheme lies, among other things, in the fact that it puts the hypothetical sentences at the center. That is, therefore, the reason why we dwelt, at length, on that type of judgment, resp. Reasoning (WDM 325/328: the hypothetical sentence).

Those who "ground" (justify) methodology on this never forget the hypothetical nature of our knowing.

Bottling up the premises is perhaps the main task of a logic of science.

A.-- Take a look at WDM 342: one of the presuppositions ('foundations') of all really strict science - according to Guéry, for example - is that it limits itself to the secular,-- which can lead, for example, to a kind of 'methodical materialism'. Think of the famous Bridgman, the theoretician of operation(al)ism: a scientific statement only has 'meaning'(in his language), according to him, insofar as, by virtue of that statement,

(i) material, materially tangible, "operations" ("operations") - such as sensory perceptions or handling of machinery - and

(ii) allows for 'formal' (WDM 238: form.alized) 'calculations' ('calculus'), which decide whether or not they are 'valid'.

Note.-- Something of this comes through, briefly, on WDM 259: 'oprationalization' of concepts. Cfr also WDM 251: it is about material and formalized -- hyper-sophisticated -- deeds, of course. This is called, in Anglo-Saxon, 'hard science' -- contrasted with 'soft science'.

WDM 346.

Of this we saw, already WDM 276, one little example, namely the transempirical verification (of religious and/or paranormal phenomena). Of this, of the same 'soft science', we also saw a Psychoanalytic model, viz. WDM 311: also something like the famous Oedipus complex is 'transempirical', -- at least in the eyes of a Bridgman or -- which is just the application of operationalism -- of Behaviorism, which puts 'inner' or 'unconscious' phenomena as "not directly testable" in brackets.

After all, for the Behaviorist, who is the Behaviorist, only externally observable behavior applies. The rest is "black box" (unknowable for now).

B. -- Review WDM 342: One of the presuppositions of all truly rigorous science is the intersubjectivity of its researchers.

In short: as long as the whole or quasi-whole community of "strict scientists" does not agree on a point, this point is considered uncertain.-- the authority argument.

This boils down to this.

(1) 'x' (standing for 'who has authority') asserts p (a proposition). So p.

(2) 'x' is a reliable authority concerning p. Well 'x' asserts p. So p is true.

(3) The vast majority of assertions of 'x' are true. Well, p is precisely one assertion of 'x'. So p is true.

(4) The vast majority of the assertions of 'x' concerning the domain (his specialization) d are true. Well, p is precisely one of the assertions of 'x' concerning the domain d. So p is true (*W.C. Salmon, Logic*., Englewood Cliffs, N.J. (USA), 1963, 63/67 (*argument from authority*)).

Replace "x" with the community of researchers, and ye understand what is the intersubjective character of all rigorous science.

Now anyone, who knows a little science history, knows that 'x' is not simply reliable.

Reread e.g. WDM 129, where 'x' is the then mathematical experts. Or reread WDM 133, where 'x' is precisely one, great mathematical - logical authority.

C.-- See WDM 341: the great starting point (premise) of really-straight science is the object delineated relative to the rest of 'being' (= reality),-- e.g. all that is alive,-- for the biologist, or all that is 'behavior',-- for the Behaviorist.

WDM 347.

(1) There is always discussion among experts about the domain to be delineated. Do you not know the discussions about the living or non-living nature of e.g. a virus? What is the lack of discussion about the inherent domain of psychological science between, on the one hand, e.g. the psychologists of consciousness and, on the other hand, the psychologists of behavior?

Some Psychoanalysts have "scientific pretensions": where is the proper delineation of the unconscious? In other words: there are always boundary questions.

(2) There is more,-- much more. Situated in the transcendental 'being' (= totality of reality) is every delineated domain. Who will decide whether -- escaping the control of the being methods of a specialization -- the rest, through some factor or through even several factors, does not control the delineated domain (WDM 7: arche, principium, principle)? Such that it is never actually completely delineated, in reality?

The methodological delineation is, after all, by agreement of all the truly - scientific, only an agreed upon, "conventional" delineation.

Conclusion.

What the true ontologist cannot do - demarcate only one part of 'being' - this is what the community of professional scientists does, continually. Which, because of this, can never be entirely sure of not only the necessary but also (and above all) the sufficient conditions under which their 'delimited domain' proceeds (WDM 198 to WDM 199, e.g., gave us a taste of this.

Who, e.g., will dare to claim that there are never unconscious factors (on the part of the researcher him/herself) that have a co-determining effect on the 'delineated domain'? Or, perhaps, as more and more 'open' professional scientists seem to assume as 'merely possible', are occult (paranormal, extra-natural; or sacred (if necessary supernatural) factors co-determining the phenomena of one domain? Surely one never knows apodictically for sure!

Conclusion.

If truly rigorous science holds as presuppositions

(1) secularization,

(2) vorsersintersubjectivity and, especially,

(3) domain separation (even if only methodically), then it is substantially very, very limited.

What especially fundationists seem to forget, who tend to ascribe infallibility properties to science. The fallibilists, insofar as they do not lapse into some kind of skepticism, have - thank God - much more 'flair' for the boundedness of truly scientific' science.

WDM 348

Note.-- What we, above, just asserted, is - quasi-literally - Aristotelianism. One reads e.g. *W. Klever, An epistemological mistake*?, in: *B. Delfgaauw et al, Aristotle* (*His meaning for the world today*), Baarn,1979, 36/47, at.

"The practice of science itself is (...) not the assumption of principles, but the search for principles, -- the search for the 'cause' of the 'phenomena'. The later (*op*. the phenomena) one has; the earlier (*op.:* the cause) one must find." (O.c.,39).-- In this Aristotle -- according to Klever, o.c.,42 -- elaborated on the older Platon, who evolved in this direction.

The "hubris" of the younger Platon, with his "dialectic" (WDM 24), calmed down to a much more pensive awareness of his own limits.

Note.-- The Neognostic 'card game'-

R. Ruyer, La Gnose de Princeton, (*Des savants à la recherche d' une religion*), Paris, 1974, 12, mentions the praxis of a card game, which - playfully - depicts foraging in a model.

Instead of putting the rules of the card game first (and thus applying them), one has to find the rules by guessing. In 'Eleusis' (a name) every player gets the chance to become a game leader.

The latter draws up a secret set of rules, which he/she writes down on a paper (which one opens at the end, for verification). These rules govern the game. They are the 'archè' that controls the placing of the cards on the table.

The leading figure puts a card on the table. The card, which the co-players put down, he/she accepts or rejects,-- by putting it to the right of the card presented by him/her (according to the secret rules).

Those, who guess the rules, to a lesser or greater degree (conjecture), dispose, to the same degree, of all his/her cards. Whereby more than one game phase is provided and as many addition points. This game has captivated campuses, as well as researchers of all types, for the reason of the analogy it exhibits with ordinary research methods.

The Neognostics emerging since the sixties, in the USA -- especially in cosmological circles, label their/their whole Neo-Gnosis as their/their Eleusis card game: everyone is, in turns, leading or co-playing. Even the whole of life is taken as that Eleusis card game.

WDM 349.

Note.-- That the Eleusis card game makes sense, in terms of research work, proves the following history.

(1) One is familiar with the peculiarly repulsive custom of witches to prepare, in her witch's cauldron, a brew. But this was not done without "throwing a toad into the boiling cauldron".

(2) A chance discovery by Michael Zasloff, biologist at the National Institutes of Health (USA) seems to justify this. He used, for his experiments, toads of the genus Xenopus.

A. On a certain day he was struck by the rapidity with which these little animals, once they had undergone a surgical operation, healed, -- this, without infections, while moving in non-sterile water.-- Compared with WDM 127 (experimental method) -- see also WDM 135 (operat. meth.): 181 (Anaxagoras) --, it may be asserted that with this Zasloff made an observation, with her given and, especially, her question ("How is it that this Xenopus is so immune?"

B. (1) He came, thereby, to the idea (WDM 224: Experimentalism), of venturing further experimentation.-- From the lemma (conjecture, hypothesis, abduction) that the Xenopus might well contain 'something' which governs that immunity (the principle), he deduces a series of experiments. What is called deductive analysis.

(2) ***Results.***

He discovers a new class of molecules, with microbe-killing properties. He calls them - after the Hebrew word 'magain' (shield) - 'magainines'. They are two small proteins (proteins), present, abundantly, in the skin of these frog-like animals. They represent a defense mechanism, which - from the immune system - is independent.

These magaines have been found to be able to rapidly inhibit the proliferation of numerous species of bacteria, fungi, yeasts and even primordial animals (single-celled organisms). In conclusion, these substances could be used to treat numerous infections.

Zasloff, who managed to secrete the gene that controls magainines, thinks that similar molecules could, well, occur in humans as well.

Bib. st.: *Decouverte* (*Crapauds contre infections*), (Discovery (Toads versus infections)), in: *Journal de Genève* 30.12.1987.

Note -- This confirms the "wild-growth theory" concerning scientific hypotheses of *P. Feyerabend, Against Method*, London, 1975.

WDM 350.

To recap.

A. *S.L. Kwee, Philosophy of science*, in: *C. van Peursen / S. Kwee*, ed., *Wegwijs in de wetenschappen*, I (*Physics, biology, psychology, sociology, linguistics, history,--philosophy of science*), Rotterdam, 1966, 110/126, typifies (defines) 'science' in terms of three key moments of a process (i.e. an event amenable to a narrative (narrativism)).

1. Within a field of data (the domain), data are **(i)** traced, **(ii)** identified, and **(iii)** verified. This, according to the essential method of any professional science. This stage - or rather, this aspect - answers the question, "how do I get my data?".

2. The 'relevant' (selective) data for a type of science - the formal object - raise the question, "What do I do with my data?" They are, within the scientific system (WDM 342: theory; summarized and ordered. What - WDM 342 - I.M. Bochenski underlined: the statements concerning the data must be, logically coherently articulated,--in a theory.

3. The first and the second 'moment' (= movable element, aspect) together constitute - what Kwee calls - the scientific insight : "It is, in science, about this insight" (O.c.,115),

B. *M.L. Wijvekate, Methoden van onderzoek*, (Methods of research,), Utr./Antwerp, 1971, gives us, in the process, a dissected and, sometimes, sophisticated insight into all the phases of the scientific process.--advised to someone, who, rigidly, e.g. wants to produce a thesis, in extremely strict degree 'scientific' callable,.

III.B.-- (III).-- ***The phenomenological method***.

Introd. **A.** WDM 44/46 defined Phenomenology, as a method, as the directly - personal encounter **(i)** of a subject ("I") **(ii)** with an object ("effect"), in its immediate unprocessed, unreasoned "givenness".

Appl. model.

(a) WDM 42 gave us, in the language and view of Max Scheler, one of the most famous Phenomenologists, one little example, with reality as real ("Dasz, uberhaupt, etwas sei").

(b) With s. Augustine (WDM 45) we learned to realize our own existence, as reality, for a moment,--a preliminary stage of modern Phenomenology. The great saint confronts us with our own real being.

WDM 351.

B. *A. de Waelhens, What is Phenomenology*, an article, once said that the answer to that question is "very controversial." Phenomenology, after all, is understood in very different senses. Even it is usually very difficult to make out what exactly one Phenomenologist means by "Phenomenology. Thus our best expert, perhaps, the late Prof. de Waelhens.

Nevertheless, there is one core constellation (coherence), which e.g., in the terms "meeting-with" or "confronting-with", is validly and universally, correctly expressed.

Similarly, there is unanimity regarding the structure of intentionality, as we, WDM 68/70, briefly formulated it.

Conclusion.

For these two basic concepts, basic definitions, they are referred to higher up in this course. - Man is not simply what he is, as defined, delimited by a body,--or delimited by an introspectively attained interiority. No : his consciousness (a central concept) is directed towards, referred to, all that is outside our body and outside our inner being ('psyche').

The blue of the summer sky, for example, penetrates my consciousness,--not only through a representation (understanding) in my consciousness (what we call with Ch. Lahr 'mediatism'), but also, yes, first and foremost, through my being open, immediately present in that summer sky (what we call with Ch. Lahr 'immediatism').

Note **--** With this intentional conception, which includes immediatism, the Phenomenologists sharply contrast themselves with the Enlightenment-Rational philosophies of Descartes or Hume, who, owing to their mediatic conception of consciousness, conceived of our inner being as an inwardly turned confinement, from which a sort of "bridge" had to be built to a so-called "outside world.

Note **--** The fact that only a representation ('représentation') would be in my interiority, without immediate intentional presence of 'die Sachen selbst' (the data itself,-- e.g. the blue sky), is sometimes called 'representationisne' (a form of mediatism).

A. ***Phenomenology as "science of the phenomena of consciousness"*** (351/355)

S. Strasser, Het zielbecept in de metafysische en in de empirische psychologie, (The concept of soul in metaphysical and in empirical psychology). Leuven/ Nijmegen, 1950, 17, says, already then, that - apart from the Phenomenology as 'metaphysics' (ontology), proper to e.g. Husserl, the founder of intentional phenomenology, or, secondly, phenomenology as a 'method' of ontology, proper e.g. to a Martin Heidegger (WDM 25v.) - phenomenology as 'science of the phenomena of consciousness' is a first degree of phenomenology

WDM 352

One also says ‘science of immanent phenomena’: ‘immanent’ means, here, “all that is within our consciousness” (i.e. -- still -- that interiority, in which we are said to be confined). In Latin: ‘cogitata qua cogitata’, the thought things (WDM 270: entia rationis) as mere ‘thought’ (intramental) things,-- these are the consciousness immanent phenomena, object of the first degree of Phenomenology (= Phenomenology as ‘science’).

Bibl. st.: *J. Moreau, The Problem of Intentionality and Classical Thought*, in: *International Philosophical Quarterly*, I (1961): 2 (May), 215/234.

Further description.

1. Moreau says that already Aristotle conceived all knowledge as a kind of relation : every ‘epistèmè’, knowledge(s), is ‘epistèmè tinos’, knowledge(s) of something, of a given. The relation genitive (‘of something’) is decisive : a knowing subject knows a known object.

What Aristotle said of knowing, -- that Husserl generalized to all types of consciousness. Also those outside the knowledge type. Any ‘cogito’. I am aware of something, I realize something, my attention is focused on something,-- that is the ‘cogito’ of a ‘cogitatum’, something of which I am aware. That is husserlian intentio or intentionality.

In doing so - increasingly Moreau says - Husserl adopts Brentano’s thesis (WDM 69; 322).

A. ***Every ‘psychic’ phenomenon*** involves something like an object, towards which it is directed. This is what the Middle Ages Scholastics (800/1450) called ‘inexistentia intentionalis’ (mental existence within our consciousness). ‘Within the soul, of course, for a Middle Ages person. It should be noted that ‘soul’, in Scholasticism, contains both conscious and unconscious elements.

B. ***Every psychic phenomenon*** involves the focus on a given, in its own way.

(1) In representation (understanding), that given is something of which one has an understanding (‘representation’).

(2) In judgment, this is something that is either affirmed (confirmed) or denied.

(3) In love, it is given something that is loved,-- in hate, all that is hated,-- in desire, that to which that desire is directed.

WDM 353.

Conclusion.

a. According to Brentano, always: this ‘intentional presence’ or ‘intentional givenness’ is found, exclusively, in psychic phenomena. No purely physical (or, as one also says, ‘physical’) phenomenon (given) exhibits this trait of being, namely, **(i)** to be object (given, phenomenon), **(ii)** in an intentional way.

b. ‘Phenomeno.logy’, i.e. the bringing up of phenomena, insofar as they are ‘phenomena’ (manifesting data), is, therefore, first and foremost, ‘the science of phenomena’.

But, since these ‘phenomena’ always show up within (the immanence or interiority of) consciousness, ‘phenomenology’ is, at once, the science of phenomena showing up within consciousness, - or the science of intentional phenomena. Which amounts to a drastic reduction of the scope of the idea ‘phenomenon’.

Continuing in Brentano’s intention, Husserl always talks about ‘psychic phenomena’. For ‘psychic’ and ‘intentional’ are identical concerning their essence.

So one paid keen attention to the dual, not always noticed meaning of “phenomenology.

Conclusion.

(1) When *M. Heidegger*, *Sein und Zeit*, I. Tübingen, 1949- 6, 27/39, characterizes “phenomenology” as follows:

(a) to pronounce (articulate)

(b) of what phenomenon is,

then this abbreviated formula falls short. At least in the first sense of phenomenology of phenomena noticed by consciousness”.

(2) Or when *Gerhardus van der Leeuw*, *Phänomenologie der Religion*, Tübingen, 1956-2, 768, says that “the phenomenon is something, which shows itself, precisely because of that/ because of that it shows itself; then this shortened formula - again - falls short: it must be “something that shows itself within consciousness.”

Or, as *R.A. Mall*, *Experience and Reason* (*The Phenomenology of Husserl and its Relation to Hume’s Philosophy*), The Hague, 1973, explains: consciousness is the central fact. And this is consciousness as a reflective capacity, i.e. as the capacity to check itself (loopily, reflexively), while it is functioning.

WDM 354.

Hume (1711/1776; the top figure of classical skeptical-enlightened rationalism) is, well, further elaborated by Husserl (consciousness in its 'medial' form, was central), but, still, improved,--and along the lines of *Meinong* (1853/1921,-- known for his '*Gegenstandstheorie'* or 'doctrine of objects as mere objects of our consciousness, apart from its existence outside that same consciousness), Brentano, Avenarius (1843/1896; -- the psychic origin of our views of life and the world), James (1842/1910; the practical-relative value of our beliefs).- Which amounts to the "immediate" form of consciousness. But it is still consciousness.

Brief comparison.

'Describing' - for that is 'phenomenology' in its first sense - is, for a Husserl, 'describing', but "how the world and our life in it shows itself to our self, as the meeting point of psychic experiences."

(a).-- Marxist e.g.: 'describe' is 'describe', but "how the world and our life in it shows itself to one or more classes;-- who, in that world and life in it, find a framework, in which, among other things, Marxist praxis, i.e. revolutionary action, is situated.

(b).-- (Neo)positivist e.g. (WDM 19;-- 118) reads as follows 'to describe' is 'to describe', but "how the world and our life in it shows itself to the inquiring, 'questioning' community of professional scientists".

Conclusion.

Husserlian Phenomenology is a kind of 'egology' or 'I-science', centered around and in our conscious I. Even though that 'I' is present to the world and life in it immediately. And no longer 'mediate', as with the Classical Rationalists. Which implies resemblance and difference (= analogy).

Pfänders' distinguished.

Pfänder is a Husserlian. In his *Einführung in die Psychologie*, Leipzig, 1904 (eds. 373/397), he distinguishes four main meanings of "consciousness".

(1) 'Consciousness' is 'self-consciousness' (in the reflective sense, that is).

(2) 'Consciousness' is 'the awareness of something' (in the intentional sense).

(3) 'Consciousness' is 'all that is psychic' (in the Consciousness Psychological sense).

(4) 'Consciousness' is 'the psychic subject' (the 'conscious I').

One sees that Pfänder moves, clearly, within the Husserlian view.

WDM 355.

The main distinction between Platonism and Husserlianism.

WDM 265 taught us the essential role of the group in the awakening of the Platonic conceived ‘idea’ in the ‘soul’. In this he is not dissimilar to the ‘group’ in the sociometry of Jacob Levi Moreno (1892/1974; founder of Group Psychotherapy):

The members come to full awareness of themselves and their presuppositions,-- thanks to a kind of group dynamics. Platonism, ‘Groups’(in Moreno’s style1),-- they exhibit a unanimism, a system of soul relations, expressing itself in “repeated conversation, as well as in intimate coexistence” (Cf. Jules Romains (1885/1972); with us Ina Boudier - Bakker).

Note.-- Platonism is, in this, a worthy successor to Socratic maieutics - the method of bringing, by dialogue and questioning, a fellow human being to full awareness of the problem posed.

Note.-- The “I-science” of a Husserl and contemporaries differs, therefore, much more from a Platonism (and even a Socratic) than by a different conception of the idea.

Summary.

Phenomenology, in the first sense, is ‘science of consciousness phenomena’ (WDM 351),--essentially psychic understanding (WDM 352v.),--in which the consciousness in question, essentially, proceeds reflectively (WDM 353),--so that ‘describing’ is -- equally essentially -- I-determined (WDM 354: egology).-- So that, by these features, Husserlian verstane Phenomenology differs thoroughly from (Neo-)Positivism, Marxism and, even, Platonism, which from the outset presuppose a plural of persons, in every describing.

B. *Phenomenology as a science ‘zu den sachen selbst’ directed.*

Although thoroughly “psychic” oriented, Husserlian Phenomenology is nevertheless not a “Psychologism,” which would reduce all realities and their entire reality to mere psychic phenomena.

Already the immediate conception of consciousness (psychic phenomena), in contrast to the Modern Rationalists (Descartes, Locke - Hume), points in this direction. The ‘object’ (‘die sache selbst’) is central. Albeit, for the time being, situated within the (intentional) consciousness and psyché directed at that object.

As a result, Phenomenology is also not a kind of psychology, though grew, from it, a “Phenomenological Psychology.

WDM 356.1.

Phenomenological 'objectivism'.

Fr. Bochenski, Philosohp. meth. , 32v., entitles it thus. And he explains: "In the (Phenomenological) investigation, thinking must be directed exclusively to the object,--with complete elimination of all the subjective". This 'subjective' is, among other things, twofold.

a.-- 'Subjective' is called, in this case, all that which obscures the 'merely cognitive (= knowing). According to Fr. Bochenski, this aspect somewhat recalls what the ancient Greeks called 'theoria' (especially since the Paleopythagoreans; WDM 13), i.e., the perusal that, in the object (given) itself, 'grasps' the merely rational (WDM 217).

b.-- 'Subjective' is called, secondly, all that is 'practical' or 'pragmatic' (goal- or result-oriented). The Phenomenologist e.g., who - as WDM 260 (G. v.d.Leeuw) briefly teaches us - studies the 'God-given' law, with the Antique Greeks, does not have to concern himself, insofar as he works in a purely descriptive (and not practically-pragmatically appreciative) way, with the practically-pragmatically useful, employable.

Note -- Whether such a thing is easily achievable, P. Bochenski rightly questions. Especially since Husserlianism is so I-directed in its thinking.

The reductions (eliminations).

Note: when, in this context, a Phenomenologist speaks of 'Phenomenological and/or or eidetic (concerning the essential) reduction', this word means, here, elimination of all that is not merely phenomenological (Phenomenological reduction) and/or of all that is not merely essential ('eidetic', the form of being (WDM 28;-- 5 (appl. mod.: 'red'), so that what remains:

(1) the pure phenomenon,

(2) is seen ('grasped') in its essence(s)". This twofold 'reduction' (not to be confused with the so-called 'reductive' method, of course) we now briefly explain.

(1).-- ***The Phenomenological Reduction.***

Since the object is the phenomenon, as far as present in our consciousness of it, it is obvious that all that is not directly given is eliminated.

Appl. mod.

Stated: Husserl, in his study, observes electric light. What he (more accurately, his I) sees (perceives) of it, is the luminous. That, for example, in the eyes of a scientist or an electrician, this light is generated by a current of electrons running through the copper wires, cannot be grasped because of direct observation. So: it is eliminated. It does not belong to the phenomenon.

WDM356 . 2.

Conclusion.

The preeminent requirement of a Phenomenological description of what is directly observable is to confine oneself to that directly observable,--without all other ‘insights’, ‘judgments’, ‘reasonings’ around it.

An inference: the elimination of “existence.

WDM 26 taught us what “essence” (mode of being) and “existence” (the fact of being there) - a duality that stems from Platon - is. Well, Husserl makes, of this, his own application.

Now, reread, briefly, WDM 268: Russell is talking there about two existences -- one within consciousness (“A exists” (= has existence) within his actual thinking of it), the second outside his actual consciousness of it (“A exists, e.g., insofar as A, somewhere, by a logician, is written down on a piece of paper”).

Well, when a Phenomenologist says: “It is indifferent whether the object (*op.:* phenomenon) exists or not; its ‘existence’ is irrelevant” (*Bochenski, Philosoph. Meth.*, 39), it is evident - following Russell’s sharply formulated distinction - that only actual existence outside consciousness is ‘indifferent’ (of no importance, i.e. not - directly observable).

But the “actual existence or ‘existence’ within consciousness” is of capital importance, - for a descriptive, because object-oriented phenomenologist. Thought (WDM 270) or “cogitatum qua cogitatum” (WDM 352) has a directly observable existence.

Note.-- An operation(al)ist, like Bridgman, will seek here not only the intentional existence, in his mind, but also and especially the material-extramental, not only psychic existence. Which is ‘hard science’.

Consequence: in the eyes of the thoroughgoing (Neo-)Positivist (WDM 345; 354) like Bridgman, Phenomenology is merely “soft science.

Extramental existence is merely suspended (“epoch”).

‘Epochè’ suspension, among the Antique Skeptics especially, means `not being able or willing to pronounce on the extramental existence of something. The `reduction’ is, therefore, an `epochè’ or judgment suspension.

Note.-- The enormous difference between Platonism and Husserlianism, concerning the doctrine of ideas, becomes apparent, when we see - see WDM 263, at the bottom - how the idea, in the pure Platonic sense, exists both for the phenomenon, in which it is present, and for 'scientific knowledge' (= the right understanding), in which it is somewhat represented. That idea is extra- and pre-mental. - Whereas the Husserlian is essentially intramental, since, for the moment, even the phenomenon, from which Husserl abstracts it (WDM 258: abstractionism), is intramental.

Further inferences: the disconnections in the knowing subject.

The elimination of extramental existence (factuality) is inherent in the object, the phenomenon and its 'essence' (eidos, beingness). The eliminations, which now follow, are situated in the subject, which is directed towards that object (intentio, intentionality).

1.-- ***The self and its acts.***

E. Husserl, Die Idee der Phänomenologie (*Funf Vorlesungen*), The Hague, 1950, 44, tells us, in very sophisticated terms, that the I - as extramental given (i.e. as person(s), as 'thing' in the midst of other things in this external world), - yes, as the source of the deeds with which it regards the object, - as well as its deeds (WDM 356 : 'subjective') - e.g. aversion to an object, excessive veneration for it etc. - must be radically switched off, so that the object is reduced to its purely knowledge-based, 'cognitive','object' and aversion to an object, excessive veneration for it, etc. -- must be radically eliminated, so that the object is reduced (=reduction) to its purely knowledgeable, 'cognitive', being. "Only and - only is meant what the given (the phenomenon) is in itself". (O.c., 44).

Comparison.

Bibl. st.: *Kl. Oehler, Ueb.,Ch.S.S. Peirce, Ueber die Klarheit unserer Gedanken* (// *How to Make Our Ideas Clear*), Frankf. a. M., 1968, 80f. (Reality); 103/124 (*Methoden der Meinungsbildung*).

What Husserl says here is very similar to what Peirce calls the elimination of the method of singularity ("method of tenacity").

Appl. mod.

An acquaintance of Peirce, e.g., was one-sidedly free-trade. He did not even want to read magazines that were not free trade. This, in order not to be disturbed in his preconceived, self-willed, i.e. without any sense for a possible other opinion, own 'sense' (= 'opinion'), thus closing himself off from the really existing phenomenon, of course.

WDM 358.

Note **--** Husserl himself, o.c., 31, notes that "every intellectual (*op.:* concerning the mere intellect) experience and, even, every experience without more (*op.: e.g.* an appreciation, a reaction of mind to something) can become the object of a pure beholding (*op.:* Husserl's term for Phenomenological description) and pure grasping". -- O.c., 45, specifies this: "To every psychical experience corresponds (...), o.g. Phenomenological reduction (= purification), a pure phenomenon.

Conclusion.

In that case, however, the psychic experience, perception, experience, itself becomes the object,-- thanks to introspection or "reflective" method.

This can, as the case may be, be developed into a phenomenological psychology. This is then one of the many scientific applications of the general phenomenology, which we are talking about here.

2.-- ***The lore (tradition).***

A second purification of the object (= phenomenon, its essence), situated in the subject, is the elimination of any transmitted opinion concerning the object.

By 'tradition' is meant "all that others have learned - before our Phenomenological research is carried out - about the object (object)."

Comparison.

Ch.S.5. Peirce, o.c.,106, among others, talks about the elimination of the method of righteousness ("method of authority").

In a Dutch language, "orthodox" is distinguishable from "sincere" "Orthodox" or "orthodox" is one who adheres, concerning an object, to what others, preferably before him/her, taught.

The Communist Party tradition, the Church 'traditions', they are splendid examples of 'rightist' thinking. Today's totalitarian states -- right-wing or left-wing -- espouse a particularly rigid form of 'right-wing method' of opinion formation.-- Appl. model.

In his *Odusseia* (= Odyssey) X: 305, e.g., the ancient Greek *Homer* (= Homerus; probably between 900 and 700 BC) talks about a 'little flower' called 'molu' (= moly). Odusseus (= Ulysses) receives it, as a gift, from the god Hermes (= in Greek also 'Hermeias'; in Latin: 'Hermes'). It has a black root and a milk-white flower. It has to protect Odusseus, when he visits the 'beautiful' (but extremely dangerous, because black-magic) magician Kirke (= Circe), in her 'nest'.

WDM 359.
Now there are several interpretations, "traditions," on the subject.

(i) One who "sees" (WDM 274: mantic) while reading (and holding in consciousness) Homer's text, sees (= direct perception, within the psyche) a black root, which, without a stem, immediately blossoms open into a snow-white flower (*note:* an antique phallic allusion);

(ii) those without the 'giftedness' of mantic 'seeing' (= perceiving) only 'think' what Homer once poemed.

Both of these "perceptions" ("intentiones" within consciousness) can, now, be further interpreted. There are two major traditions:

(i) the (Neo)Platonic, which takes such observations seriously and situates them in an extraterrestrial, possibly 'extra-natural' or, even, supernatural world (WDM 17); the Protosofist (and Modern-Enlightened) interpretation, which refers such 'things' to a lost realm of superstitions or 'hallucinations'.

The true Phenomenologist here commits 'epoche', judgment suspension : he opts for neither tradition, at least for the time being. He adheres to the pure phenomenon, without question.

Note.-- By the radical rejection of any tradition (straightforwardness), the true Phenomenologist adheres to the very-individual perception (intentio'). This, in contrast to e.g. the (Neo)Positivist or the (Neo)Marxist). Cf. WDM 354.

3.-- ***The theory.***
A third purification of the given (= the phenomenon and its being), situated in the perceiving subject, is the elimination of "all that is theoretical. "Hypotheses, proofs, and knowledge acquired from elsewhere" (*I.M. Bochenski, Phil. meth29***.,**),--this is what this third reduction situated in the subject means.

"By this the Phenomenologists do not at all mean to deny the value of indirect knowing: they do consider it permissible, but only after the phenomenological basis. This constitutes the absolute beginning and motivates, among other things, the validity of the rules of inference." (o.c.,35).

Note.-- Again: by disabling, the Phenomenologist wants to assert only the very individual, not "from elsewhere" information.

WDM 360.

Comparison.

Ch.S.S. Peirce, o.c., talks about the elimination of the aprioritarian or a-priori method (method of a-priori). This consists in putting, methodically-consciously, an opinion first (hence the term "a-priori"), but - unlike the idiosyncratic and the straightforward method - open to discussion. One theorist thus collides, as it were, with the other,--with his opinion. In the process, according to Peirce, reality itself, which the theoretical opinion is about, hardly risks coming into its own. It is too much of a assertion among ourselves, in the discussion, -- without any or too much testing against reality itself.

Conclusion.

There is dialogue here, but a dialogue, which is too much absorbed in "aprioritized" opinions, preconceived and discussed from person to person. One spins around within the reality-foreign circle of debaters, who argue,--without (much) reference to actual data and its testing.

One might brand this as "discussionism. One finds this method - according to Peirce - both in the Antique-Middle Ages metaphysics and in the Modern Enlightened Rationalists.

He opposes this with what he calls 'the scientific method' (or still: 'the method of external permanency') when more than just one scientifically-minded person repeatedly ('external permanency': repeatedly established - situated outside the individual - subjective - permanence in reality itself) establishes what others, with him, in discussion with him, also establish, then there is a great chance that, collectively, one 'grasps' objective reality (WDM 217: 263: 285: conception of meaning). In other words : sense foundation (= a-priori), but tested against sense conceptions, collectively.

(2).-- *The eidetic reduction.*

Do we return to the object, the phenomenon (given).

Husserl wanted "science" in the sense of general insights.-- To this end, he focuses his Phenomenological attention on the "eidos" or "general (= universal) being" (= creature form; WDM 289), which he, in the singular phenomena, uncovers. Cf. WDM 5 (classical theory of concepts).

Instead of losing himself in the separately-singular data, Husserl summarizes their being. Or rather, he summarizes the phenomena in their abstract-general being ('Wesensschau'). We need not explain this further, given all that precedes.

WDM 361

III.B.-- (IV).-- ***The formalism as a method***.

Introd. -- We already met formalism, as a method, e.g. WDM 236 (formalized logic).

Bibl. st.:

-- *I.M. Bochenski, Methods in Modern Science*, Utr./Antw.,1961, 51 (Formalism); 52 (Calculus);

-- *E.W. Beth, Formal Methods* (*An Introduction to Symbolic Logic and to the Study of Effective Operations in Arithmetic and Logic*), Dordrecht, 1962;

-- *Ph. Davis/ R. Hersh, L'univers mathématique*, Paris, 1982, 131/133 (*Formalization*).

The semiotic pedestal.

WDM 52 already gave us an overview of the three points of view, proper to a semiotics (theory of signs). See also WDM 214v. (sign theory: semiological (de Saussure) and semiotic (Peirce, Morris)).-- Semiotics looks at every sign, including e.g. the language and text sign, from three angles.

(1) ***Syntactic.***

A word (= language and/or text sign) belongs to an entire language (= sign system). For example, the word 'or' is placed between two other words. At the beginning of a sentence it places (configuration theory: WDM 189) quite often the subject indicating word (sign), as in: "Mathematics is difficult". When the theory of signs analyzes the relations - better : the placements - of signs, it is called "syntactics" (also: "syntax"). The traditional grammars stood, in this choice of term, as a model, of course.

(2) ***Semantic.***

When the semiotician quotes the word "bikini" to explain its meanings (e.g., one of the islands (an atoll), north of the Marshall Islands (in the South Pacific); e.g., in French, the title of a play, in 1946, about the effects of the atomic bomb; e.g., a beachwear), he/she is engaging in "semantic semiotics". Semantics deals with the meanings of signs. E.g. in natural or artificial languages.

(3) ***Pragmatic.***

A sign is a useful thing, with utility value. the 'pragmatics' talks about the utility value of a sign.-- So e.g. the Antique rhetoric, it taught - by means of words, sentences,-- gestures (that too are signs) - to act on the listeners. Rhetoric was, at the time, a forerunner of the pragmatic branch of general semiotics.

WDM 362.

Formalism.

The formalization consists in - one aspect of the general semiotics, namely the syntactic, a.k.a. to work itself out.

A. ***The formalized conception of the sign.***

The simplest core (‘element’, constituent) of any formalism is the singular sign - e.g. a word, a mathematical sign (‘x’) - this smallest constituent - we take ‘T’ for ‘sign’ - is reduced (analogous to the ‘reduction’ (WDM 356.1)) to the written or graphic form. This is the way in which the ink blackens (resp. makes readable, perceptible) the paper - exactly where ‘T’ is written. We call this, for convenience, the formalizing reduction. It involves a series of eliminations: ‘T’ is purged of every semantic meaning (desemantization); ‘T’ is thought in such a way that every pragmatic scope is eliminated (depragmatization).

One sees the similarity to the Phenomenological reduction. It, too, limits itself to a minimum of meaning and scope.

Remainder: The purely syntactic ‘meaning’ (*note*- The term ‘syntactic meaning’ should not be confused with the ‘semantic’).

Note.-- One might call the sign thus reified, sentence-reduced, “the matter or processing material of formalism.

B. ***The formalization as an arrangement (placement) of meaning-reduced signs***.

Appl. Model.

1. Let us take the four sense-reduced signs (‘symbols’ called by set theory) of set theory: ‘U’ for ‘union’ (of sets); ‘c’ for ‘contained in’; ‘€’ for ‘belonging to’ and ‘O/’ for ‘empty set’.

One checks the same, WDM 131/133 (Peano’s pasigraphy): there, too, graphic, meaning-reduced - but, precisely because of that, formalizingly very useful - signs can be found.

2. How, now, do these converted signs acquire a minimal ‘meaning’ (a syntactic one, then)? This is done by introducing ‘syntactic rules’ (= the syntax of graphic forms).

a.-- ***the meaningful, ‘acceptable’, permissible signs***.

A first kind of rules of syntax regulates the mutual arrangement of the smallest elements into compound ‘well-formed expressions’. These are also ‘signs’, but compound ones.

WDM 363

Appl. model.-- "2 € the set of natural numbers".

Or still: (a ⇔b) (→a→ b) ^ (b→ a) , i.e. "If a and b are equivalent (= symmetric), then 'if a, then b' and 'if b, then a'".

The meaning-reduced signs 'a', 'b', get, by introducing syntactic rules (which apply logic to those signs, -- this, by means of 'connecting signs', creating compound signs (well-formed expressions)); a 'meaning', viz. the formalized one.

b.-- ***The "calculus" (logistics).***

The second side, inherent to the introduced placement rules, contains, in fact, an implicit logic, which, immediately, by the introduction of the syntactic rules (and their connecting signs), becomes action in the 'matter' or processing material, the smallest elements, i.e. the purely graphic signs.

Shorter: one does not connect or place those smallest elements 'wildly' but logically ordered.-- Which we, WDM 231 ('connectiva'); 235 ('functors'), already saw at work.

Note.-- The term 'calculus' (account) is telling : arithmetic stood model.

C.-- ***Traditional arithmetic as a 'formalism' model.***

As *P. Bochenski, Phil. Meth*., 52, writes, formalism, i.e., the method of formalization (= calculus), consists essentially in an extension of an ancient method, namely, the processing of quantities - e.g., numbers - in an arithmetical way.-- We clarify this by means of an applicative model.

Note.-- The Cartesian order(s) theory consists in robbing a given - e.g., a quantity - of its complexity and, thus, making it transparent by

(1) have the data broken down into parts (elements; smallest units);

(2) to, then, "fix" (edit,-- Here, in this account case) it, part after part.

Do we, like Father Bochenski, take the multiplication, namely 27 x 35.

a.-- ***The main account as a 'formalism'.***

To calculate e.g. 27 x 35 by heart, we -- with a Descartes -- first divide e.g. 27 into e.g. 20 and 7, -- to proceed, afterwards, e.g., as follows 20 x 35 = 350 + 350 = 700. -- 7 x 35 we can 'edit' (operative method) as follows : 7 x 30 = 210; -- 7 x 5 = 35. Together: 210 + 35 = 245. -- total of the subtotals: 700 + 245 = 945.

WDM 364.

We see it: to make the indistinguishable, by division, orderly and, subsequently, totalizing. But the formalism is there at the same time: the signs '+' and 'x' graphic precipitation of the logical operations 'aggregation' (sum) and 'multiplication'. These are the syntactic rules, i.e. the rules or 'archai', principia, 'principles' (WDM 7), which govern, 'regulate' or, even, 'govern' (as one also says today) the placement (configuration) or 'syntax' of symbols.

b.-- ***The scriptural account as formalism.***

One of the methods established in our cultural system is placement, which is called ''multiplication.''

Appl. Model

27
X 35
135
81
945
HTD

Every elementary school child learns, over time, that the "units" (e.g., 5, 7) and the "tens" (e.g., 2, 3) should be placed correctly, i.e., according to syntactic rules that incorporate logic into them.

One sees, again, the Cartesian division of what Descartes, at the time, called a "series",-- from right to left: first the E (units), then -- to the left -- the T (tens), then, even more to the left, the H (hundreds).

1. This follows the multiplication of parts ("elements"), in which the totals were broken down (e.g., 5 x 7, 5 x 2, -- 3 x 7, 3 x 2).

2. This, again, precedes the aggregation, from bottom to top and right to left, of E, T and H. - That is one, -- and then a very elementary example of logical syntax or ordering. This according to models (WDM 113) of configurations (WDM 114), i.e., modes of 'combining', which -- in elementary school -- are taught by the teacher, as it were, mechanically, i.e., without conscious reflection.

Conclusion.

As far as number calculation is concerned, it is clear: as it were, like a machine 'mechanically', we place numbers - calculating by heart or in writing - according to a syntactic rule.

c.-- ***The letter calculus as formalism.***

One looks briefly at WDM 231v. (Logical algebra). As well as WDM 236 (Viète: typesetting).

WDM 365.

Bibl.st.:

-- *O. Willmann, Gesch. d. Id., III* (*Der Idealismus der Neuzeit*), Braunschweig, 1907-2, 48/51 (*Das Prinzip der Analysis*). - Instead of "operating" with singular figures (operative method), Viète works platonic ideas. These are put, graphically, in letters on paper.

Francois Viète (1540/1603; Pythagorean-Platonic thinker; WDM 282/285: Joh. Kepler) applied the syntactic rules -- aggregation, subtraction;-- multiplication, division -- not to numbers, as Europe, following the Greeks, had done until then, but to letters, which represented general (universal) concepts (WDM 226v.: all (numbers); whole (the number)),-- something typically Platonic.

Appl. model.

We know, e.g., since elementary school, the aggregation '3 + 4'. Already the numbers are collections (3 e.g. is both three women and three stars, as well as three points on a line, etc.-- up to 'infinity'). Thus '4' is 'all that is 4'.

A. However, Viète goes even further in totalization: 'a + b' represents all possible numbers, among which '3 + 4' is only one singular case.

B. Second step of Viète : As a result, ideas (e.g., all possible numbers) become amenable to the operative method. - "Mathematically operational" (one can now say).-- Thus, e.g., one sees that the number arithmetic (e.g., '3+4 = 7') is only one field of application of the more universal letter arithmetic (e.g., 'a + b = c' or, even more generally, 'x + y = z'; WDM 293: from constant (unchangeable) to variable (changeable)). - One sees the abstraction process: from singular to universal.

Schedule:

universal idea 'sum':	***'formula speciosa':***	***'formula numerosa :***
value1 + value 2=value 3; idealistic, but not operative. ("operational")	x + y = z -- a + b = c (INTERMEDIATE) Universal (= ideational), more operative.	3 + 4 = 7 singular and operative

Note.-- The term 'formula', diminutivum (diminutive) of 'forma' (WDM 28: form of being), became, in Viète's sense, to 'formula' (which we still use), i.e. a form of being expressed in letters and letter operations,--which is still reminiscent of Antique-Middle Ages ontology.

Algebraic model.-- Traditional algebra, possibly since Viète's 'analysis; does this e.g. as follows.

WDM 366.
Given: the equation (ontological analogy) "$ax^2 + bx + c = o$".

Requested: solve this equation. Again Cartesian: first divide.
E.g., "$ax^2 + bx + c - c = o - c$" leads to "$ax^2 + bx = c$".

Again: the syntactic rule concerning 'bridging': "Any member of one side of an equation may be transferred to the other side, if it is given an opposite sign (+, - become -, +)." Which all, who 'solve' algebraic equations (ana.luein') do without much thought ('mechanically').

Conclusion.
A. Consider, with the idea of 'configuration'(placement model), an algebraic formula: it is an example of a rule or a set of rules, which 'order' graphical characters (= logical syntax).

B. The absolute certainty, with which we calculate, with numbers or letters, stands or falls formalism. As a result, 'account' ('calculus') is rock-solid science (WDM 345).

Logistic model (logistics). WDM 236/241 already taught us an initial idea 'logistics'. Now, briefly, the same logistics as account.

Appl. model.
(1) ***Logic.*** The ontological theory of thought or logic has, among other things, a rule of thought,-- analog of the syntactic rule. Thus, e.g., the logical conversion rule (WDM 325; 330; 334): "In a syllogism (capstone) a general negative judgment may be converted."

Appl. mod.: **(a)** "No (single) man is a stone". -- **(b)** The converse form: "No stone is a man". In other words: subject and predicate may be interchanged.

Symbol shortening.-- S e P (S = subject (subject),-- P = predicate (saying); e comes from the Scholastic Latin 'nEgo' I deny) becomes P e S. Traditional, non-formalized logic also had its sentential graphic forms -- S, P, e, etc. but it very rarely (and even then early on) introduced formalism.

(2) ***Logistic***. Formalized, it reads as follows: "There is a syntactic rule, applicable to S e P (universal-negative judgment), by which the letters before and after e -- in all formulas of the type 'X e Y' -- may be interchanged (be convertible)." --Without, as invariably in ontological-traditional logic, having to think about what one is doing : mechanically one applies.

Note -- Formalization, i.e. the introduction of formalism, is the process by which e.g. mathematics (but possibly also any other science) becomes amenable to mechanical operations.

WDM 367.

Appl. model.

-- Ph. Davis/R. Hersh, L'univers mathématique, 131, gives one example of that statement.

(a).-- *The running, 'readable', proficient text.*

The ordinary textbooks of mathematics contain at most sections, which are formalized. "They are written in French, English, or in other languages of manners, for they serve to be read by human beings. Yet the premise is that any mathematical text can be formalized.

In fact, however, it is postulated that all mathematical texts - thanks to precisely one formalized language (*op.:* language of art) - can be formalized. this formalized language is the set theory" (o.c.,131).

WDM 128 already situated Georg Cantor in the stream of the great summative tradition. Cantor's theory is a formalization of the traditional, logical set theory. WDM 362 gave us, already, the four specific symbols, which the set theory uses. As Ph. Davis/R. Hersh, o.c.,131, note : the other symbols, necessary to the formulation of set theory, are the logistic symbols (WDM 235).-- Peano was already, in his pasigraphic formalization (WDM 131v.), involved in an analogous method.-

Ph. Davis/ Hersh, ibid., say that instead of these four basic ideas, one could also introduce symbols to formalize point, line, meeting and parallel (which would then give formalized geometry). It could, then, handle both logistic and set theory symbols. Thus one builds a formalized mathematics.

(b).-- *The ordinator.*

One applicative model of formalized text is the program of an ordinator. To 'program' an ordinator - which serves, e.g., to test arithmetic, in an enterprise - one must know the 'vocabulary' (vocabulary) of the ordinator. One must also know its 'grammatical rules' (understand: syntactic rules).

Conclusion.

What the thinking living man, when he 'calculates'--formalized, i.e., mechanically -- does, the machine (ordinator) does so much better. She is simply 'mechanical-without-any-more'. In a conversational, unformalized text, one may subdue (leave unexpressed) many an idea and reasoning.

But in a text "for mechanical use" everything must be explicitly formulated. The so-called "imagination", understand: the "enthymemen"(WDM 334 (333: examples)), i.e. reasonings, in which not everything is explicitly worded, is not appropriate here.

WDM 368.

III.B.-- (V).-- ***The axiomatic-deductive method***.

Bib. st.:

-- *I.M. Bochenski, Philosophical Methods in Modern Science*, Utr./Antw.,1961, 98/104 (*The axiomatic system*);

-- *J.M. Anderson/ H. Johnstone, Jr., Natural Deduction* (*The Logical Basis of Axiom Systems*), Belmont (California), 1962. In view of the purely introductory nature of this course, we will not go into the axiomatic-deductive method in depth, but introductory, with simple examples.

1.-- ***Models of deduction.***

Since the first member of the compound term 'axiomatic-deductive', actually designates a variant of deduction, first some examples of deduction.

1.A.-- ***Regressive and progressive deduction***.

Bib. Sample : *I.M. Bochenski*, o.c., 102/104.

(a).-- ***The regressive deduction***.

This type of reasoning

(i) formulates, first, the theorem to be proved (which is, in fact, the resultant of the reasoning) and

(ii) provides, thereafter, the evidence.

Appl. models.

(1).-- The great mathematical discoveries, in more than one case, have this course: a mathematician has an 'intuition' (understand, in Platonic terms: a lemma or working hypothesis); that is the so-called 'theorem'. Only - sometimes much - later does one find the full proof.

Conclusion.

Heuristically (as a finding process) and "genetically" (as a becoming process), the regressive deduction is, certainly, a historical fact.

(2).-- The geometry of Eukleides of Alexandreia (-323/-263; Stoicheia (= Elementa, Elements of geometry)) the preeminent founder (he had predecessors) of so-called 'Euklidian geometry' takes a regressive-deductive approach.

The statement to be proved is, first of all, formulated (= theorem, 'theiorema'). Only thereafter, from the principles (= axiomata or postulates and deduction rules) and/or the already proven propositions (= derived truths) or so-called 'laws' of geometry, the Euklidian structured explanation provides the proof, which, logically, precedes the formulated proposition.

Conclusion.

This method is didactically (psychologically-pedagogically) very useful.

WDM 369.

(b).-- *The progressive deduction*.

Here the logical course predominates.-- 'Progressive' is that deduction which, first states the principles (axiomata and deductive rules) and the prior propositions ('laws') and, from there, by 'derivations' (deductive reasoning), sets out the inferences to be proved.

Appl. models.

(1) Any calculus (WDM 363), 'reckoning' or 'account', in which, from the premises (prepositions), one sets forth inferences (= derivations) while calculating.

(2) One model of this is e.g. the logic of judgments or statements. Cartesian (WDM 363),-- i.e., step by step, the propositions concerning the proposition (= judgment) - axiomata and rules of deduction, -- possibly, in a later elaboration, proved propositions - are enumerated and/or proved, -- in order to work out, from them, an unbroken series (Descartes' word) or 'chain' of derivations concerning judgment.

Conclusion.-- The progressive method on deduction is the only logical one, in the strict sense of that word.

1.B.1.-- *The deduction in a banal-daily situation.*

Many believe that the axiomatic-deductive method is alien to life. Nothing of the sort! Consider the following occurrence,-- logical reasoning.

(a) It is, in a certain sense, true what, once, a Goethe poet wrote, in a purely Romantic sense: "Grau, mein Freund, ist alle Theorie und grün des Lebens goldner Baum" (Gray, i.e. colorless, empty, my friend, is all theory and green, i.e. colorful, full, of life's golden tree).

(b) But it is also true what once said a Carl Rogers (1902/1986) said, when he endorsed the saying of Kurt Lewin (1890/1947; group dynamics and, latterly, 'action - research'): 'nothing is so practical as a good theory'.

Recently, An, on vacation in le Haute-Savoie, at Evian-les-Bains, on Lake Léman, was kindly asked by a policewoman about her nationality. Whereupon An claimed - regressive deduction - **a.** that she was "of Belgian nationality" and **b.** she would "prove it".

a.1. By chance she had her birth certificate, in her luggage, which showed that she was indeed born in Lier.

a.2. When asked if she, afterwards, had not renounced her nationality (which made the document worthless), An said "of not."

So much for the facts (proven and alleged), which make up the premises 'de facto' of her 'evidence'.

b.1. All those who were born in Belgium and immediately acquired that nationality (which they have not renounced in the meantime) are of Belgian nationality.

WDM 370.

b.2. All, who were born in Lier, are Belgians.

b.3. All, who present a birth certificate, which is in order,--on which it is stated that they were born in a certain place, were really born there.

See some further axiomata, which the policewoman, in Evian-les-Bains, must preface, if she is to let An, in all peace and peis.-- But all the axiomata and prepositions she has not verified;-- so e.g. whether the deed is not a forged deed,-- whether An has not -- which she could, after all, conceal -- yet renounced. And suchlike more.

Consequence: the agent's certainty is not apodictic (which would be rock-hard science), but merely dialectic-rhetorical (WDM 326). Also, her total deductive reasoning is partially enthymematic (WDM 325).

(1) Nonapodictic -and partially subverted reasoning is regularly tolerated in everyday life, -- which led S. Augustine (354/430; top figure of Western Patristics) led to say that "our life is largely founded on faith."

(2) But there is one domain where both reasoning gaps are never tolerated, - that is the axiomatic system.

Note.-- The idea of "deduction" in G. Fr. W. Hegel (1770/1831).

The deduction of this great "father" of current philosophies (though not the only one, yet Hegel is for a very large part the one who started current philosophy), is very similar, except for its day-to-day character, to the reasoning of our Evian policewoman, who, from just one birth certificate, deduces that An is Belgian.

Bibl. st.: *H.A. Ett, ed., E.A. van den Bergh van Eysengha, Hegel*, The Hague (Kruseman), 67vv..

(1) Hegel responds, in a little work entitled "How ordinary human reason conceives philosophy,--made clear from the works of Mr. Krug," to the accusation that he deduced everything "from a-priorist principles. Krug challenged Hegel to deduce in this way, e.g., the existence of every dog and cat -- even his penholder.

(2) In 1802, Hegel replies.

a.-- The existence (WDM 27) or 'existentia' of the Scholasticians (800/1450) is not proved. It is given.

b.--But that same existence is

(a) non-existent (impossible) and

(b) inconceivable (impossible) without the comprehensive, 'dialectical' (WDM 31), i.e. the totality of all being, coherence (= system), in which e.g. all dogs and cats, as well as the penholder in question can be situated. Every single being is a "moment" (a mobile element) within the "system" of reality.

WDM 371.

"To point out and understand from the understanding of this living whole its meaning and place (*note:* this is the Hegelian deduction) is something quite different from proving its existence." (O.c., 68).-- Thus, e.g., from the evolution of living beings, insofar as it is a professional scientific fact, one could - in Hegelian terms - "deduce" the actual existence and meaning and place of dogs and cats. This amounts to demonstrating the necessity of it, once one has accepted some premises (of factual and theoretical nature).

Note: Think of a day-to-day reasoning like "it had to come (once)." Such a thing is a vernacular, commonsense deduction:

(i) one hears something told or experiences something;

(ii) situated (on his Hegels, within the 'system' or 'whole' of the situation, i.e. the preceding circumstances (precursors)) that something, suddenly, for those who reason logically, seems 'necessary'. Or : 'inevitable'.

Think of what WDM 198 teaches us about causality: once the precursors (causes, factors) are known, "the sequels (effects, elaborations) must come from them" (popularly expressed). Again, the same deductive reasoning.

Note.-- Hegel seems new but he is much less so than one sometimes suspects, for lack of cultural-historical knowledge.

J.P. Vernant, Mythe et pensée chez les Grecs, II, Paris, 1971, 55, ad 28, says: "Like their technical thinking, so also the historical thinking of the Greeks: it remains indebted to logic and dialectics (*note:* understood here as the art of discussion).

M. I. Meyerson writes: "The order of facts, with Thoekudides of Athens (-465/-401; the great historian), is logical (,...).

Time, with Thoekudides, is not 'chronological'. That time is, by and large, a logical time".

Meyerson recalls the remarks of Mme. de Romilly, according to whom, with Thoekudides, the story of a battle is a theory and the victory achieved is a verified reasoning.

Meyerson adds, "The world of Thoekudides is a world remembered ('repensé') and its history a dialectic turned into an act." (*Meyerson, Le temps, la mémoire, l'histoire*, in: *Journal de Psychologie*, 1956, 340)".

WDM 372

"Alles was wirklich ist, ist vernünftig. Und alles was vernünftig ist, ist wirklich". (Quotation from *Hegels' Grundlinien der Philosophie des Rechts*; Vorrede; literally reads, "Was vernünftig ist, das ist wirklich; und was wirklich ist, das ist vernünftig"), (What is reasonable is real; and what is real is reasonabl).

-- *K. Marx/ Fr. Engels, Ueber Religion*, Berlin, 1958, 174, explains to us this Hegelian statement (from *Fr. Engels, Ludwig Feuerbach und der Ausgang der klassischen deutschen Philosophie,1*): "With Hegel, however, 'all that exists' is absolutely not without more 'real'. The characteristic 'reality' he assigns only to 'all that (actually exists and) is at the same time necessary'. In other words: with Hegel only 'real' is all that both actually exists and is also somewhere logically deductible and, thus, 'necessary'.

In short: the logically deductible fact. That is what he calls 'wirklich'. The other facts are, in his language, 'unwirklich', 'unreal', based on insufficient presuppositions ánd in the mind ánd in the facts, outside that mind.

Engels' example: "The Roman republic was 'real', but so was the Roman empire, which replaced it. The French monarchy had, in 1789, become so 'unreal', i.e. so deprived of all necessity, so 'reasonably irresponsible' ('unvernünftig'), that it had to be destroyed by the 'Great Revolution' (*note:* 1789), of which Hegel always speaks with the greatest enthusiasm. In this case the monarchy was 'the unreal', the revolution 'the real'. And thus, in the course of development (*note:* basic idea of all dialectics), 'all that used to be real' becomes 'unreal' : it loses its necessity, its right to exist, its

'Vernünftigkeit' (literally: 'reasonableness', -- better : its logical deductibility). In the place of the dying 'real' a new, life-giving 'reality' takes its place, -- this, peacefully, in so far as 'the old' (*op.:* worn out) is 'sensible' enough, without recalcitrance, to die, -- violently, when it resists this necessity." (o.c., 174).

Compare with what WDM 41 taught us about modalities (necessity e.g.).

WDM 373,

Note.-- Hegel confused too much -- what he called -- "the understanding" of this world with some axiomatic system. Our knowledge -- Hegel's, notwithstanding his vast information and particularly well-read knowledge, included -- is only inductive, i.e. based on samples carried out on the matter of e.g. history. This implies that also Hegel

(i) not all factors (assumptions) and

(ii) did not know the whole factors (postulates) of life and history. Hegel's system of history was therefore not 'axiomatic', i.e. it started from all and all complete presuppositions,--which he actually knew. But his style of thinking and writing does not entirely prove a Krug wrong: there is a strong - incidentally Enlightened-Rational-apriorist element in his propositions (WDM 359v.).

Note **--** This remark also applies, though only analogously, to any book of history, insofar as it seeks to explain, and to all philosophies of history (which are usually "constructions", strongly ideologically (WDM 18) underpinned). Life (and history, main themes of a certain Romanticism), to which Hegel was no stranger, can only be approached reductively.

With this Romanticism, Hegel introduced another epistemology: life, which - gradually and embroiled in a dialectical process of contradictions and developments - becomes aware of itself. But - again - however interwoven, that life is not a system in the sense of the axiomatists. It is indeed a system, a coherent whole, but, for our limited knowledge, only a black box. Cfr WDM 308.

1.B.2.-- ***The deduction, subject science***.

We give, of these, two models, -- simple enough, to remain, for beginners, perfectly understandable.

Model 1.

We take, almost haphazardly, a book like that of a *Paul Diel*, viz. his remarkable *Psychologie curative et médecine*, Neuchâtel (CH), 1968, 117s.

Diel, who attempts to "axiomatize" psychology, at least insofar as it is supposed to be "curative" (psychology curative), proceeds as follows.

A.-- ***The basic axiom.***

Throughout the great variety of schools (from consciousness psychology e.g. to the behavioral psychology school) sails - says Diel - one and the same, such an obvious axiom that, usually, one does not even express it explicitly: "The intimate operation ('le fonctionnement intime') of the human psyché is - fundamentally - the same for all people."

WDM 374.

What applies to all people is law. this should, in Diel's view, therefore be a kind of law.

Mitigation.

1 - The psychological factors (e.g. desires, wills, ideas) and their degree of intensity ***do vary*** from one individual to another (WDM 314/315). So e.g. from the healthy psyché to the sickly or even, ill lies sometimes a giant difference,--which Diel, for another, clearly realizes. The whole book testifies to this.

2. *Counter-model*.-- Did, after all,-- according to always Diel -- the intimate workings of the psyche differ radically or too radically, then a professional scientific psychology, supported by observations (induction), would yield utterly arbitrary (uninformed) results.-- Which is 'absurd' (WDM 32; 34: out of the absurd).

B.-- *Theses* ('corollaria')

From that main premise ("postulate") follow immediate derivations (propositions).

B.1.-- *The veracity ('objectivity') of psychology.*

(The first, the more general (*note:* the ontological), Diel indicates as 'absence d' aveuglement' (absence of blindness). The 'seeing' of all that is, concerning the intimate working of the psyche, whether introspectively or behaviorally, is that first, more general objectivity.

(b) 'Objective' has a second meaning. Called, then, 'objective'; all that is supported on materially evident data (think of some experimental or clinical psychology). 'Knowledge' of psyche is possible, for such rock-hard psychologists (WDM 345), only when the community of researchers (intersubjectively), acquires material evidences (secularly) concerning the intimate workings of the soul.-- Which reduces all introspection (and psychologies of consciousness) to 'soft' science. Not able to withstand 'rock-hard questioning'.

B.2.-- *The 'comprehensives' ('verstehende') method*.

Diel further deduces: based on self-observation (introspection), concerning the inner workings of the human soul, in each of us, there exists the (logical) right to deduce the intimate workings of the psyche of a fellow human being, from that self-observation.

At least if - so says Diel - one's own soul life proceeds healthily; for there is, e.g., (what he calls) "une introspection morbide" (a sickly introspection).

WDM 375.
Note.-- We have titled this thesis as "the verstehende method.

Bibl. st.:
-- *H. Arvon, La philosophie allemande*, Paris, 1970, 42/44 (W. Dilthey);
-- *J. Freund, Les théories des sciences humaines*, Paris, 1973, 79/93 (Dilthey).

(1).-- *From "humanities" to "humanities"*.
Freund, o.c.,79, claims that it may be said that Wilhelm Dilthey (1833/1911) was and remains the theorist of the human sciences.

a.-- *The term 'Geisteswissenschaft'* (spiritual science)
This dates, roughly, to *Dilthey's* main work, *Einleitung in die Geisteswissenschaften* (1883). With this, Dilthey put an end to the predominant positivism (WDM 19;-- 118 (Neo-Positivism)) of the XIXth century.

Instead of 'positive' facts (Comte, Carnap,- Bridgman) Dilthey states 'Geist' or, also, 'Seele', both terms, which are not so easy to translate into Dutch. One has to understand the Romantic-Idealist atmosphere of XIX - d'century Germany in it to understand those terms correctly.

(i) Nature, object of natural science, situated outside man, is and remains to us - actually, somewhere - foreign, non-human. But our soul life, which culminates in a high culture of spirit (Seele, Geist), is directly accessible to us, within the framework of an intimate or inner self-experience. WDM 354 (Husserl's I as a meeting point of conscious, psychic experience) continues, in a sense, that pairing 'Seele/ Geist'.

(ii) The couple 'Erklären'/ 'Verstehen' corresponds to the duality 'Nature/ Spirit'.
'Declaring', concerning extra-human nature, amounts to inferring from existing or hypothetical relations between natural phenomena.

To 'understand', in terms of human soul -and spiritual life, is to understand oneself and, at the same time, to understand what is going on in one's fellow man -- in a kind of direct experience. Here 'explaining' is understanding on the basis of meanings, interpretations (WDM 216: Schleiermacher's hermeneutics), which we ourselves perceive or conceive and find in others through life, to a certain extent similar to our interpretations. Here man, as "soul" and "spirit" comes through in his sense-making and sense-forming essence (WDM 217/219). - Not as a natural phenomenon. Unless in the background, insofar as man belongs to the natural data.

WDM 376.

***Note* --** Meanwhile, the term "humanities" is also used in a much broader sense.

In evidence: *H.J. Störig, The History of Science in the Nineteenth Century* (*The Humanities*), Utr./ Antw., 1967,-- in which -- paradoxically -- on Dilthey's understanding psychology; correctly counted, a mere eighteen lines (yes!) are spent, while, successively, history science,-- law science, economic science, social science (sociology), linguistics,-- psychology are discussed. This apparently without much logical 'coherence'.

b.-- *The term "humanities"*.

***Bibl. st*.**:

-- except, of course, *Freund's Les théories des sciences humaines* (above),

-- *L. Millet/ B. Magnin, Les sciences humaines aujourd'hui*, Paris, 1972;

-- *G.G. Granger, Pensée formelle et sciences de l' homme*, Paris, 1967;

-- *M. Barbut, Mathématiques des sciences humaines*, I (*Combinatoire et Algèbre*), Paris, 1967; II (*Nombres et Mesures*, Paris, 1968.

-- *G. Legrand, Vocabulaire Bordas de la philosophie*, Paris, 1936-2, 306s., says that the previous name of the human sciences was "moral and political sciences.

Around 1950, in France, the Faculties of Arts may call themselves Faculties of Arts and Humanities. Thus Millet/ Magnin, o.c.,26s.

***Note.*--** More recently, a competing term is "social or societal sciences" which studies human beings, especially, under collective point of view.

But - says the same book - those "social" sciences are, gradually, incorporated into the general term "humanities.

Millet/ Magnin, o.c., classify them into 'Les sciences de l'individu' (including mainly psychology (e.g. Psychoanalysis, characterology, intelligence psychology)) and 'Les sciences de la société' (including mainly sociology, Structuralist-diagnosed linguistics, ethnology, e.g. Culturalist ethnology, Symbolism, prospective (future science), psychosociology).

With which we are sometimes, miles away from Dilthey's *Geisteswissenschaft*.

WDM 377.

Note -- G. Legrand, o.c., 307, notes, very critically, that, according to his summary judgment, the human sciences, in the sense, which breaks through around 1930, amount to "divers discours portant, tantôt sur l'homme tantôt sur la société (au sens large),-- tantôt sur les méthodes 'scientifiques' elles-mêmes qui s'appliquent aux objets non 'naturels'", (various discourses concerning, sometimes on man and sometimes on society (in the broad sense), -- sometimes on the 'scientific' methods themselves which apply to non-'natural' object).

In other words: up to now, there has been absolutely no progress towards a single, solidly structured human science according to object and method.

A possible pedestal of the humanities.

What Diel, o.c., says seems to us a basis. but it needs to be worked out.

(A).-- ***The basic axiom.***

Not a general psychological law(maturity), elevated to axiom (as Diel advocates), but (what he counts among the corollaries; WDM 374) the axiom of objectivity, both the soft-scientific and the rock-hard-scientific, is the postulate-by-example, of (not only a - curative - psychology, but of) all sciences including the human or humanities.-- That is sound ontology.

In short: the sciences study a sector of reality and do so in a valid, i.e., reality-based way. Also and especially any human science.

(B).-- ***Corollaria.***

(1) ***First inference***.

Limited to the humanities and humanities: if these are objective (reality-validated), then it must appear - at least over time - that both the intimate workings of the psyche and the intimate workings of the society of men, in all men, are somewhere identical.

Otherwise - as Diel says - the science of man and especially the science of mind can never arrive at more than purely accidental and random results (WDM 374: counter model).

(2) ***Second inference***.

From the basic axiom we deduce, in unity with a first, justly formulated thesis (the minimal and essential identity), the truly - justifiable possibility, which consists in concluding, from one's own, inner experience regarding psyche and society, to one's own, inner experience regarding the same main points, with one's fellow man. Even though, apparently, very large differences will be exposed.

I.e.: a certain comprehensiveness or 'verstehende' method (broader than that of a Dilthey) is justifiable;-- which removes us from WDM 91 (Differentism).

WDM 378.

Conclusion.-- *J. Viet, Les sciences de l'homme en France* (*Tendances et organisation de la recherche*), (Human sciences in France (Trends and organization of research)), Paris/ The Hague, 1966, 245, summarizes.

(a) Mathematicians, physicists, biologists see in the human sciences a domain which, at first sight, is very different from theirs and, even more, are very suspicious of its so-called "scientific" character.

(b) Yet -- according to Viet -- the human sciences get off the ground, -- in the "genius intuitions" of the founders, in the careful working out of frameworks of thought, afterwards,-- in a confused crowd of "tendencies" (think Structuralism), none of which, until then (1966), surfaced.

(c) Three points stand out, to a neutral researcher:

1. there are results (think linguistics since de Saussure e.g.):

2a. the essence of the 'scientific fact' (within the framework of the human sciences) and

2b. the growing concern for, the concepts (WDM 241vv.) and the definitions (WDM 249) of these, as well as the logical-strict deduction (WDM 335: 368vv.) seem - according to always Viet - the common features of all human sciences.

Yet - again (WDM 373) - not all factors, which determine the inner working of soul and society (and which are therefore presuppositions in the deductions), not all factors in their totality, which determine that intimate working of psyche and social life (and which are therefore presuppositions in the deductions of the human scientists) get known, even by the most careful examination.

Consequence: the induction, i.e. sampling, is the only basis in finding the propositions. Like Hegel's "system" like every historical "explanation" and every philosophy of history, the human sciences obey the reductive method.

By comparison.

People like *Jean Cavaillès* (1903/1944; *La formation de la théorie abstraite des ensembles* (The formation of the abstract set theory), (1938)) or *Imre Lakatos* (1922/1974, *Proofs and Refutations* (*The Logic of Mathematical Discovery*) (1976)) have clearly shown that mathematical work, exploratory work, does not - just as in the human sciences - run smoothly logically either.

One factoid,--to illustrate. The Fields Medal (a kind of Nobel Prize for mathematicians) was awarded, in 1986, to Simon Donaldson (29), among others, who proved a type of space mathematical data -- called E8.

WDM 379.

(i) Donaldson was not even a topologist (the domain) and **(ii)** he confesses that he reached the results thanks to a random error: "I was trying to understand well-defined singular cases of differential equations. It is thus - only by chance - that I discovered an application of four-dimensional space to topology." (*Bib sample : Actualités: médaille Fields 1986* (*Topologie et théorie des nombres*) in: *Sciences et Avenir*, No. 477 (1986: Nov.).

A-fortiori reasoning.

Inasmuch as chance and error can have such salutary effects, in such a strictly axiomatic-deductive science as contemporary mathematics, why might not the same seemingly negative factors have the same effects in the investigative work, in the human sciences? Are these sciences, at least in their present phase, less "exact"?

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Model. 2.

Turn now, finally, to the truly axiomatic-deductive method. We take a single small example from *Anderson/ Johnstone*, *Natural Deduction*, 6.

The authors want to give an 'Example of an Axiom System: Simple Order'. We translate. "If we express an area of knowledge in terms of postulates or axiomata, then we can, rigorously, prove the following assertions, which are deducible from those axiomata."

In fact, any proof of that type can be worked out as a series (*note:* Descartes' order(s) doctrine; WD 363) of logical 'steps' (*note:* operations), each 'step' of which is accounted for by a derivation rule." (o.c.,6).

Behold the formalized structure (WDM 362v.: formalization).

I.-- As an example, theorists take the order(s) structure, as it appears e.g. in the set of natural numbers (-2, -1, 0, 1, 2, etc.) or, abstractly, in an imaginary set of 'entities' (things; WDM 2), governed, by definition (= agreement), by the same order relation (a, b, c, d, etc., such that a is smaller than b, b is smaller than c, etc.).

Intuitively (by direct observation,-- of an intellectual-rational nature) we see many features of such an order(s).

But we can, just as well, 'axiomatize' that intuition, i.e. translate it into prepositions of deductive operations.

WDM 380.

II.-- The postulates, (postulates, axioms), which one designs more often -- it is a question of a real design -- are the following.

Ax. 1.-- If a and b (***appl. mod.:*** e.g. -1 and 0, 2 and 3, etc.) are distinguishable (WDM 28: forma, that by which something is distinguishable from the rest), then a is smaller than b (symbolic : a<b) or b is smaller than a (symbolic : b<a).

Ax. 2. If a is smaller than b (symbolically: a<b), then a and b are distinct. (NOTE: in ontological language : they have a different being form or 'forma').

Ax. 3.-- If a is smaller than b (symbolically : a<b) AND b is smaller than c (symbolically : b<c), then a is smaller than c (symbolically : a<c).

Note.-- The symbol '<' (is less than) expresses a relation i.e., in ontologically - identical language, an analogy (WDM 82).

III.-- With these three axiomata as 'archè', principium, principle (governing the derivations; WDM 7) we can prove a first 'theorem', 'theoreem' or proposition (derived truth.

St. 1.1.-- It is impossible for a to be smaller than a (symbolically: a<a).

Evidence

1. Given Ax, 2 (If a <b, then a and b are distinct) and given a substitution rule (which allows equivalent entities to be interchanged), we can write : "If a is less than a, then a and a are distinct (symbolically : if a<a, then a and a are distinct).

2. The result of such reasoning (deduction) is, manifestly absurd (incongruous; WDM 32; 34; -- 374 (Diel's reasoning).

Note.-- Anderson/ Johnstone, o.c.,7, note the logical structure of the incongruity proof If A, then B.

Well not B (the absurd). So not A (the presuppositions, from which the absurd deduction follows). 'A' stands for 'presuppositions' and 'B' for the (absurd) deductions.

Note.-- WDM 379 gave us the rule (regulative model) of the proof of the theorem (a series of logical steps, justifiable by rules of derivation).

See here, schematically, the application (applicative model).

1.-- If a is smaller than b, then a is different from b (Ax. 2).

2.-- If a less than a, then a different from a (Subst. o.g. Ax. 2).

WDM 381.

3.-- a = a (Ax. 4, which can be introduced in the meantime; WDM 30); although it is obvious, it must be expressed explicitly).

4.-- It is not true that it is not true that a = a (3; rule).

5.-- It is not true that a < a (a less than a) (2; 4; rule).

Conclusion: One sees the Cartesian doctrine of order(s) clearly applied here: an unreviewable totality is broken down into its parts in order to be made surveyable and verifiable (WDM 363).

St. 1.2.-- If a is smaller than b, then b is not smaller than a.
Symbolically : (a b) -→ (b a).

Evidence.
If, by pure supposition, a is smaller than b and b, at the same time, is smaller than a, then - o.g. Ax. 3 (If a is smaller than b and b is smaller than c, then a is smaller than c) - this leads to "a is smaller than a" (which was discussed above).

As I said, we stick to very simple examples, -- orderly for people, who are not familiar with the strict, "apodictic" (WDM 326), rock-hard, proofs, -- but, at the same time, telling and evidential.

2. -- ***The axiomatic-deductive system***.
Turning now to the system or system within which deduction can be made.-- To begin with, we say only that only the systems constructed by the pure designing mind of man can close one hundred percent (i.e., allow no exceptions to the rule).

We quote, here, a text, which speaks volumes. *J.-E. de Mirville, Pneumatologie (Des esprits et de leurs manifestations fluidiques devant la science moderne*), (Pneumatology (Of spirits and their fluidic manifestations before modern science)), Paris, 1853-1; 1858-4, quotes as the motto - of his stirring book on extrasensory phenomena (under a fine-grained, 'subtle' point of view):
"Celui qui, en dehors des mathematiques pures, prononce le mot 'impossible', manque de prudence" (All those who, outside the realm of pure mathematics, pronounce the word 'impossible' commit imprudence).

We have seen, outside of that 'pure' theoretical domain, examples of this, already, above (think of Hegel's hubris to 'deduce' a historical fact,--even if it is from the famous 'totality' of Modern dialecticians (WDM 370)).

Which will not prevent us from formulating a very brief word concerning the dual system of axiomatics.

WDM 382.

Cultural-historical introd.

I.M. Bochenski, Phil. meth., 96v., briefly outlines the genesis (becoming).

1- Older than elaborated formal logic, axiomatics, among the Antique Greeks, is already consciously (to a lesser or greater degree) present,-- from some Pre-Socratics (-600/-450; think of the Eleates (WDM 14)).

Of course: a Platon and an Aristotle, with their logical concerns, founded the first approaches to elaborate axiomatics.

2. Of course, only the mathematicians, from Hippokrates of Chios (-470/-400) onwards, who - according to Eudemos of Rhodes (-350/-300; an Aristotelian, who wrote a history of mathematics) - drew up stoicheia (= Elementa, Principles) of mathematics, have, in the earliest Antiquity - apart from views on axiomatics - also practiced its applications. So that Platon and Aristotle had models before their eyes.

Note -- Also the stoics (Stoics, Stoics from (-300) worked out models : the logical rules were axiomatized by them. But the Euklidian stoicheia -- principles -- remain the most famous model.

Note -- *E.W. Beth, The Philosophy of Mathematics* (*From Parmenides to Bolzano*), Antw./ Nijmegen, 1944, 63v., attempted to formulate Aristotelian ideas concerning axiomatics. For Aristotle, axiomatization remained a kind of scientific ideal, difficult or unattainable.

3. The scholasticism (800/1450),-- a number of modern, enlightened - rational thinkers (including one *Benedict de Spinoza* (1632/1677; a Cartesian, who wanted to axiomatize ethics (moral philosophy), among other things, in his famously titled *Ethica ordine geometrico demonstrata* (1677)),-- they wanted to axiomatize all of philosophy.

Which testifies to an exaggerated “rationalization,” of course. “His attempt failed, miserably,” says P. Bochenski, viz. of Spinoza’s ethics. Yet a Hegel, a.k.a., fell in love with such a style of thought (WDM 370).

We know, by now, by what: our experience, inductive as it is, only captures samples from the ‘totality’. Nothing more.

4. For the first time, since an Aristotle, the more recent axiomatics (understood as “theory of axiomatization”) took seriously the reflection on what axiomatization is, its beginnings.

WDM 383.

(1) The distinction between "law" and "rule" already known to the Stoics (WDM 362: syntact. rules; 380: axiom =/ rule) was reintroduced by none other than Edm. Husserl reintroduced (WDM 70).

(2) The idea of "derivation" ("consequence"), in its present, sharpened sense, was articulated by Bernhardt Bolzano (WDM 69) and, later, independently of Bolzano, by Alfred Tarski (1902/1983; School of Warsaw).

(3) Alfred Tarski and Rudolf Carnap (1891/1870; with Moritz Schlick, in 1924, founder of the Wiener Kreis) worked out the main sub-ideas of the idea 'axiomatic system'.

'***Axiom',***

1. The word "axiom" derives from the ancient Greek verb "axioo," to esteem highly, to recognize validity.

With Aristotle, 'axiom', presupposition, always means a statement, which serves as a principle (WDM 7) for the statements that can be derived from it (and in this sense governs them). Aristotle, therefore, there is a dichotomy (complementation)

(i) the class of axiomata and

(ii) The class of derived statements.

For example, in the geometrical Principles (Elements) of Eukleides.

In that Antique sense, an axiom is **(i)** ontologically prior (first-rate) and **(ii)** evidently - certain.

2. In the recent sense, "axiom" is just a statement, which is not - derived. Nothing more. The characteristics 'evidentness' and 'certainty' - rather psychological characteristics - become blurred, and the ancient distinction between 'axiom' (universal presupposition) and 'postulate' (private presupposition) is also lost.

3. The Stoics and Husserl distinguished axiom and rule.--The present axiomatic-deductive system has, therefore, two types of principles:

(i) axiomata (= laws) and

(ii) rules (= directions for operations).

The axiomatic system.

In addition to the new meaning of the idea 'axiom', in the current axiomatic system prevailing since +/- 1880, one notices formalism (WDM 361/367). One thinks mathematically with graphic signs ('symbols'). The explanation of these symbols does not strictly belong to the system itself.

Third feature: the idea of 'derivation' (consequence, inference) is strictly limited to the axioms, rules and propositions (derived statements) of the system itself. It is a closed system.

WDM 384.

The axioms of the axiomatic system.

The axiomatic system, in turn, has prepositions. So that - what Bochenski, o.c., 100, mentions - not all "systems" (if one can still use that name then), even strictly derived and this in a formalized way, are valid.

1.-- ***The axiona of 'rhyme'*** ('Consistency')

The whole system must not have any contradiction (incongruity, absurdity). It must be contradiction-free.

(I).-- Already Aristotle (with his predecessors and contemporaries) put this postulate first.

(II).-- The recent axiomatists work out this Antique intuition more sharply : not only may there be no contradiction de facto, factually; also de iure, legally, no incongruity may occur in it.

Reason.-- Logistics (mathematical - formalized logic) proves that

(i) from a contradiction (as a preposition, premise)

(ii) both untrue and true derivations are possible. So that there would no longer be a distinction between true and false statements (WDM 30) and scientific thinking would become impossible.

In short: the axioms - and their derivations - may not contradict each other.

Appl. model

1. *A. Virieux-Reymond, L'épistemologie*, Paris, 1966, 46/52, (*La méthode axiomatique*), gives us, of this, a little example. Recall WDM 131/133 (Peano): WDM 132 gives as axiom (2) "Zero is a number". To introduce zero. But axiom (6) "Every number has a successor, which is non-identical with zero" limits the set of natural numbers to the positive ones.

Or, as Virieux-Reymond, simplifying, says: "Zero is the successor of no number" (which excludes the negative numbers, from -1, -2, etc.).

Imagine, 'per impossibile' (as an absurd hypothesis), that Peano nevertheless introduces a negative number somewhere without stirring axiom (6), then he commits an incongruity. his 'system' loses its system - or closedness-character; it literally, logically, splashes apart. It is non-consistent.

2. Peano can, of course, change axiom (6), - such that 0 is the successor of -1, etc.. But then he establishes a new system, which introduces and the positive and, also , the negative numbers, axiomatically.

WDM 385.

Expressed in technical terminology : by omitting at least one axiom (e.g. ax. (6), one ‘weakens’ the system; for one robs it of one of its ‘essence forms’ (WDM 28), i.e. of one of the elements by which it can be distinguished from all other systems of the same order. Which proves - for the umpteenth time - how fundamental is the Scholastic (and already Platonic) idea ‘being form’ (forma).

Bibl. sample : *J.H. Woodger, The Technique of Theory Construction*, Chicago, 1939 (logistics -- said book -- finds its applications in mathematics and natural science or biology, but also in the humanities (WDM 377), -- so e.g. sociology, economics).

2.-- ***The axiom of mutual independence and of completeness***.

(1). -- The axiom of mutual independence.

Consider Peano’s axiomata : none of them is derivable from a co-axiom; consequence : it is independent of all others. If not, it is redundant.

(2).-- ***The axiom of completeness***.

To work out all the inferences of Peano’s number theory, and thou shalt be able to deduce from it all the true statements of the system. If from a small number of axiomata (+ the rules, of course) all propositions are deducible, then, the set of axiomata is complete, ‘sufficient’, sufficient. One calls -- metonymically (WDM 120) -- the whole system also ‘complete’.

Criterion.

As Virieux-Reymond, o.c., 49, notes, one can tell whether a system is complete by the fact that

(i) of two contradictory statements, expressed in shapely terms (expressions),

(ii) at least one can be proven.

Opm.-- Aesthetics and axiomatics.

WDM 192/197 gave us a little introduction to aesthetics.-- One -- and then one axiomatic -- application.

“As a matter of fact, in contemporary axiomatics, aesthetic reasons appear to play a greater role than in earlier days : one tries, e.g., to find as little as possible, yes, preferably just one axiom, from which all corresponding statements (*note:* inferences) can be derived.”

In the same direction, for example, one gives, to this axiom, the simplest form.-- Cf. Bochenski, o.c., 101.

WDM 386.

Note.-- The ‘decidability’ of a system.-- If the same system is both consistent and complete, then it is decidable.

Every pair of opposites concerning statements - a proposition and its negation - is such that one can prove just one of them, i.e. demonstrate its (un)truth - starting from the axiomatic system.

Conclusion.

The requirements of freedom from contradiction are more pressing than those of completeness or decidability.

Note.-- Strict formalism (WDM 361/367) is also an axiom, but only logicians and non - intuitive mathematicians, as well as those who “formalize” in other sciences, apply this axiom strictly.

In other words, what is called ‘intuition’ (WDM 379), i.e. not proceeding axiomatically and systematically, as e.g. the Phenomenologists (WDM 360: eidetic reduction of the phenomenon, which is intuitively grasped in its essence) do, remains, to a limited extent, ‘allowed’. But means a lapse from rock-hard to ‘soft’ science’.

Main impression.

How can we, now, characterize the axiomatic-deductive system? characterize it?

(1). ***The if possible total elimination of the “intuitive” method***.

What we, naturally, ‘see’ (insightful method), is, in axiomatizing and ‘systematizing’ (= the two aspects), reduced to a minimum or to zero if possible. That is the axiomatic - deductive ‘reduction’ (understood as limitation, reduction to pure reasoning from principles).

(2). ***The introduction of a two-tier system.***

Alfred Tarski, Introduction à la logique, Paris, 1971, 109/141 (*La methode deductieve*), emphasizes a parallel system.

A.-- ***The system of expressions*** (constitution system).

Whoever constructs axiomatically-deductively, puts forward the smallest possible number of (‘aesthetic’ principle) ‘primitive’, i.e. not - defined, but purely presupposed terms (WDM 241). One says: the basic ideas.

All that, later, is formulated, is expressed exclusively by means of those terms. If, nevertheless, new terms are introduced, then they are defined purely by these basic terms and - possibly - introduced terms. In other words, the constitution system is closed. -- except that one always needs natural languages to explain them. That is the essential ‘openness’ towards natural speech, which is invincible.

WDM 387.

With Fr. Bochenski, o.c., 101/102 (Constitutive System), we can also designate the dichotomy as:

(1) ‘fundamental expressions’ (without definition put them first),

(2) ‘calculated expressions’. The latter decay into two types:

a. according to ‘rules of constitution or terminology’, one introduces new atomic expressions (these are governed by rules of definition);

b. according to “formative or compound - terminological rules” one introduces new compound expressions. - This amounts to a kind of syntax or grammar.

B -- *The system of judgments* (propositions, statements).

Tarski, o.c., 110, indicates the dichotomy.

(a) *primitive statements* (= axiomata)

often called’ postulates’ -- are presupposed, without question.-- These are the basic principles.

(b) *derived statements* (‘propositions’).

On the basis of the ‘primitive’ statements -- and, as the case may be, other prior derived statements -- one introduces new statements.-- The process which introduces them is called argumentation (proof, evidence, argumentation). In the axiomatic-deductive system, this is invariably a deductive proof.

As Bochenski, o.c., 99/100 (*Construction of the axiomatic system of statements*), says: both axioms and derivation rules (WDM 383) are needed. Thus the system of statements is also closed,-- except for the fact that, in explaining it, one must appeal to natural languages.

Note: Bochensky rightly observes that the axioms and the derived statements (propositions) belong to the object language (the actual language) of the system, while the rules of derivation belong to -what is called ‘meta-language’ (language about the language,-- the language in which one expresses oneself about a language). The meta-language is, as it were, the model (WDM 112v.) which provides information about the original (the object language).

Note 2. Bochenski, ibid., says that there are systems conceived, which, without ‘axiomata’, stricto sensu, contain only ‘rules’. There are also systems in which, from the fundamental rule, derived rules are deduced.-- But both types are important only for logistics. For no other area of scientific thought.

Conclusion.

Tarski designates Euclidean geometry, as well as Peano’s system and D. Hilbert’s *Grundlagen der Geometrie* (Fundamentals of geometry), (1899), as DE models --Cf. WDM 131/133.

WDM 388.

III.B.-- (VI).-- ***The reductive method.***

Introd. .-- Bibl. st.:

-- *W. Klever, Dialectical thinking* (*On Plato, mathematics and death*), Bussum, 1981, 28/55 (Idea dialectics: Platon's theory of knowledge);

-- *id., An epistemological mistake*?, in: *B. Delfgaauw et al, Aristotle* (*His meaning for the world today*), 36/47;

-- *Ch. Lahr, S.J., Logique*, Paris, 1933-27, 570/624 (*Les sciences de la nature*: 1. *Méthode des sciences physico-chimiques* (570/604); 2. *Méthode des sciences naturelles ou biologiques* (604/624));-- 625/659 (*Les sciences morales et sociales* : *1. Méthode historique* (625/650); 2. *Les sciences sociales* (650/ 659)).

-- *I.M. Bochenski, Philosophical Methods in Modern Science*, Utr../Antw., 1961, 125/171 (*The reductive methods*: 1. *Structure of the natural sciences* (130/ 139);-- 2. *Types of explanatory statement* (140/146);-- 3. *Induction* (146/155);-- 4. *Probability and statistics* 155/162);-- 4. *Historical method* (162/171);

-- *Irving Copi, Introduction to Logic*, New York/ London, 1972-4, 349/488 (*Induction*: 1. *Analogy and Probable Inference*; 2. *Causal Connections* : *Mill's Methods of Experimental Inquiry*; 3. *Science and Hypothesis*; 4. *Probability*);

-- *Fr. Kambartel/ J. Mittelstrasz, Hrsg., Zum normativen Fundament der Wissenschaft,* (On the normative foundation of science,), Frankfurt a. M., 1973 (a series of contributions by representatives of the 'Erlanger Schule' on all kinds of subject sciences).

Just the enumeration - with sometimes more detail - above forces us to the most elementary insights. That's all there is to it. Fortunately, the reductive method has already been discussed, several times, either in its general structure (WDM 2) or in a number of applicative models (WDM 22; 126; 127; etc.), so we can be briefer.

Cultural-historical introd. .

Bochenski, 125v., gives some main features.

As Klever, o.c., says, a Platon is and remains directional to this day: the forward and backward dialectics WDM 23v.) are models for the axiomatic-deductive reasoning, which, from presupposed axiomatic assertions, reasons 'forward' (thinking through logically) and also for the reductive method, which, from a fact, reasons 'backward' (seeking logical presuppositions).

On this last point, the reductive 'regressive' explanation, we already bumped WDM 373.

WDM 389,

Note.-- **A.** WDM 5 (Parmenides' teaching poem) taught us that the founder of Western ontology once wrote that "what is" ("being"), "keitai kath' heauto" (there, in itself, independent of us, "lies", i.e. is available).

Well, in the reductive method, it is presupposed that that same 'being' (any reality) is, somewhere, 'sensible' (WDM 71: knowability and thinkability).

Jan Lukasiewicz expresses this intelligibility in the first prepositions of his schemata. For example, the reductive schema reads, "If all, then some or just one. -- Well, some or just one -- So all".

The first preface "If all, then some or just one" expresses only the sense, intelligibility - universal, yes, transcendental (all-encompassing).

Traditional ontology expressed the same thing, where it said that "everything - all being and every being in its entirety - possesses a necessary and sufficient ground ('reason'), either in or outside itself (WDM 107: internal and external comparison have, here, its basis).

This is also what the ancient Greeks expressed when they spoke of their 'archè', principle, literally: 'That which governs' (WDM 7). When the professional scientist finds out by what something is governed, he understands it. insight is invariably insight into what governs a given.

B. Heidegger once spoke of 'the light of being(de): Well, if ever this mysterious sense - he is more or less specialized in mysterious statements - means something sensible, then what we are about to say : the phenomena ('data' 'facts'), with which the reductive method allows itself to be confronted, put forward precisely that light, namely, that they are 'sensible', 'explicable' (Heidegger's 'hermeneutics of being').

The type exhibited by the reductive - as opposed to the axiomaticus - resembles the eleusis card game of the Neo-Gnostics (WDM 348): where the axiomatician(s) possesses the presuppositions, 'principles', already from the outset, by 'ponation' (a free designing act), there the reductive/ reductive should find them. while searching, while guessing.

Father Lahr, Logique, 656/659 (*L'induction et la déduction dans les sciences*), writes, therefore, rightly: "The ideal of science consists in relieving us, as far as possible, of direct observation,---by allowing us to deduce ('déduire'), from a small number of data, the largest possible number of inferences. (...).

WDM 390.

In the end, it comes down to this: induction (*note:* the testing phase of the reductive method) does, in the end, nothing but accumulate the 'capital' (*note:* a stock of data), which the deduction has the task of exploiting (...).

Once the general laws are established (*note:* the typical work of induction), the physicist and the chemist can abandon the scales or the retort (*note:* scimitar used as a distilling flask),--to think only computationally (WDM 363; 369).

In fact, all natural sciences are moving towards the 'mathematical form'. Without that mathesis no 'progress', in the scientific sense. This proves splendidly that the universe is 'sensible' ('rationnel'), in its creature ground ('dans son fond'). that which my mind ('raison') deduces as a logical ability, is, precisely that which is accomplished in nature. - "Dum Deus calculat, fit mundus" said Leibniz (1646/1716; Cartesian; "While God calculates, the world is becoming"). (...)".

Conclusion.-- The reductive method is the backwards axiomatic method : the universe, in and around us, covers axiomata, which the reductive/ reductive, by searching work, tries to find out. Leibniz, also fed on Scholastic sources, still realized, with the great Pythagorean-Platonic, but Christianized tradition, that god's ideas (WDM 282/285: Kepler) are in and above those axiomata. That is, fundamentally, theocentric idealism.

Again: a pedestal of the sciences.

WDM 377 talked about the "pedestal" (understand: basic axiomata) of (human) sciences.

(1) The axiom of object fidelity (rock hard or 'soft') mentioned there must

(2) be "illuminated" by the axiom of sense (i.e., of the presence of "axiomata" in the phenomena themselves).

(3) From there we can account for the inner workings (the essence) of phenomena, natural or human.

So much for platonism.

Second traditional foundation: aristotelianism.

Both Klever, o.c., and Bochenski underline it: Aristotle, following Platon's lead, laid the further "foundations" of the reductive method. He himself practiced induction continuously (according to Bochenski).

WDM 391.

Still his theory of it is "noteworthy" (Bochenski). The Modern theories are deployed by Francis Bacon (WDM 196/199),--the founder of modern causal induction (WDM 341), as we have set forth, WDM 182v..

Bibl. st.:

-- *T. Kotarbinski, Leçons sur l'histoire de la logique*, Paris, 1964, 320/329 (*L'induction dans l'antiquité*) 330/340 (*La théorie de la méthode inductive chez Francis Bacon*).

-- Follow, in England, *John Herschel* (1792/1871; *Discourse on the Study of Natural Philosophy* (1830)),

-- Especially *William Whewell* (1794/1866; *History of Inductive Sciences* (3 vols.), London, 1837; *Philosophy of the Inductive Sciences Founded upon their History*, London, 1840/1860,-- monumental works conceived in a Kantian spirit); -- *John Stuart Mill* (WDM 139 (*Assoc*.);--135 (*operat. meth*.);187 (*amend*.);-- 200/203 (*method*)), continuing Bacon, Herschel and Whewell.

As a good Kantian, Whewell avoided both one-sided Empiricism (facts only) and equally one-sided Apriorism (Intellectualism: ideas only): induction is, for him, then,

(i) a set of factual phenomena),

(ii) meaningful, made intelligible thanks to an idea of the mind applicable to it."

The criticism of Bacon-Herschel-Stuart Mill follows, in the XIXth century (*Kotarbinski*, o.c., 360/370: *L'induction au cours du dernier siècle*)).

The emergence of logics (WDM 231/241; 366) made traditional induction theory, of course, revisited. - W. Kneale, R.G. Braithwaith, G. Wright and others may be mentioned here.

Probability theory (statistics).

The reductive method runs in tandem with calculating probabilities (WDM 54v.),--especially when the reductive/reductive, reasoning from generalizations (induction), ventures predictions.

John Maynard Lord Keynes (1883/1946; famous economist; *Treatise on Probability* (1921) and *Rudolf Carnap* (1891/1970; *Logical Foundations of Probability* (1950) were leaders.

Logic =/ Methodology.

Very rightly Bochenski, o.c.,125, notes that from *Bacon* (1620: *Novum organum*) until +/- 1880, the intelligentsia confused between formal logic (understanding, judgment, reasoning) and method theory (formal logic applied to domains of the real). The same logic gives measure than one method.

WDM 392.

The "principles" governing the reductive method.

Bochenski, o.c., 135, rightly emphasizes that the 'archai', principia, principles, of reductive reasoning are twofold. He does not hesitate to say that "a reductive science is an 'upside down' axiomatic system" (ibid.). In other words, it is a backwards axiomatic

system, looking for its axiomata.

a.-- *The empirical- experimental principle*.

Genetically, i.e. as a process of becoming, viewed, there is an empirical basis, which, preferably, is also experimental.-- The reasoning is: if this set (collection) of facts (phenomena, data), expressed in protocol statements, is true, then they require an adaptation to it.

Aristotle would say "pragmatic" (i.e., adhering to the pragmata or facts -- set of ideas (concepts),-- eventual laws (after induction or generalization,-- amplificative induction of course) and theories (statements worked out into a system).

Note.-- Expressed in an ancient, -especially mathematical, language:

(1) given: the facts, set forth in protocol judgments;

(2) demanded: an 'explanation, which 'makes sense' (meaning), in the form of ideas, possibly also laws and/or theories.-- The first is empirical (observation, 'experience'); the second is axiomatic (thinking).

b.-- *The axiomatic-deductive principle*.

The reductive method is an axiomatic - deductive system in construction.-- if the axiomata (ideas, possibly: laws and/or theories) are true, then the facts (expressed in protocol statements) are deductible from them. In other words: those axiomata govern the phenomena.

Conclusion.-- Thus Bochenski, rightly, distinguishes a twofold basis : perception and thought.

The main stages of the reductive method.

A.D. De Groot, Methodology (*Foundations of Research and Thought in the Behavioral Sciences*), The Hague, 1961, 29, outlines - what he calls - "the cycle of empirical-scientific inquiry."

(1) Observation (collection and arrangement of factual material,--this, while, in the mind of the collecting, 'hypotheses' (explanations) grow).

(2) Hypotheses (understanding the empirically established facts;--which -- paradoxically -- De Groot calls 'induction' (i.e., he forgets that singular phenomena, insofar as singular, presuppose a non-inductive hypothesis (axiom)).

WDM 393.

(3) Deduction (derivation, in a deductive manner, from the hypothesis of inferences, which represent testable predictions).

(4) Testing (new empirical material, with protocol statements, representing either verification (confirmation) or-in Popperian spirit-mainly falsification of the postulates (hypothesis)),

(5) Value judgments ("evaluation") (i.e., comparison of the test with the hypothesis).

Note -- Not only the behavioral sciences (a term, which approaches that of "humanities" (in the harsh sense) (WDM 375vv)), but e.g. also the biological know, very explicitly, an analogous scheme.

Read e.g. *J.-M. Fataud, éd., Claude Bernard* (1813/1878), *Introduction à l' étude de la médecine expérimentale*, 1, Paris/ Brux./ Montréal, 1966. This famous methodological work, dating from 1865, also mentions 'le cycle experimental' (the experimental cycle), with as main phases, resp. aspects "observation, hypothesis and verification". (O.c., 29; 54).

Note.-- The same Claude Bernard, o.c., 110s., emphatically criticizes those thinkers who distinguish, indeed, separate de- and induction too much. "Being at home in the experimental method, I only note that this distinction appears to me, "dans la pratique" (in the scientific praxis), very difficult to maintain (...).

Although it is true that the experimenter - in his method - usually starts from singular observations to reduce them to 'principles' (*note:* in his language: the experimental statement, which serves as the starting point of the reasoning), as well as to laws or to general statements, it is also true that he starts - necessarily - from said general statements and/or laws, to go to the singular facts, which he logically deduces from these principles."

Which strongly confirms our theses on the subject: the reductive method is backwards deductive method,-- looking for premises ('axiomata' or 'hypotheses').

WDM 394.

Note.-- Not only the human sciences or the biological also the natural sciences (astronomy,-- physics and chemistry) are, as praxis, governed by an analogous scheme.

1--. ***Ch. Lahr. Loqique***, 601, says it briefly, but suggestively: " (There are three essential moments in the experimental method: the observation, the suggestion), (*note ;* hypothesis), (verification). Comme le dit Cl. Bernard:

(i) the fact suggests the idea;
(ii) the idea directs the experience and
(iii) the experience judges the idea".

Lahr summarizes Fr. Bacon on this point:
(a) the "hypothetical" method, which emphasizes only the idea (hypothesis);
(b) the empirical method, which excludes hypothesis (emphasizes only "empiricism," unprocessed experience or facts);
(c) the experimentalist (experimental), who keeps track of both the idea (hypothesis) and the experience (facts) together;
Behold how *Fr. Bacon* saw it, in his day (1620; *Novum organum*).

The Empiricists resemble ants, piling up materials without intellectual - rational coherence (a jungle of "facts"). The Apriorists resemble spiders, who spin admirable, refined and symmetrical webs out of their own thinking, but lack sturdiness and usability. Like constructions hanging in the air.

One may have the highest expectations based on the narrow synthesis of experience and mind." Thus, literally, the so-called "Empiricist" Francis Bacon. These claims prove that one has to be very careful, when one considers a Fr. Bacon as a 'one-sided Empiricist'! The 'image' (image impression) may be a falsification of the facts.

2. "Observe, assume, verify, generalize - these are the four processes that constitute the experimental method". -- One sees - on the human scientific biological and natural scientific level - notwithstanding profound differences, yet a striking methodological similarity: observation, hypothesis, testing (generalization (= induction)).

Which *Lahr*, o.c., 570/604 (*Méthode des sciences physico-chimiques*), broadly, explains.

Note.-- *Bochenski, Wis. meth.,* 130/139 (Structure of Natural Sciences), distinguishes, also:
(1) protocol ruling (finding of fact);
(2) hypothesis (eventual law and/or theory) testing (verification or falsification).

Conclusion.-- There is apparently an analogy.

WDM 395,

Nomothetic and idiographic reduction.

Bibl. st.:

-- *I.M. Bochenski, Phil. meth*., 127 ("*inductive and non-inductive reduction*");

-- *J.Freund, Les théories des sciences humaines*, Paris, 1973, 105/108 (*Les sciences nomothétiques et les sciences idiographiques selon Wilhelm Windelband*.); (The nomothetic and idiographic sciences according to Wilhelm Windelband), 108/118 (*Les sciences (de la nature et les sciences de la culture selon Heinrich Rickert*), (The sciences (of nature and culture) according to Heinrich Ricker).

It would be hoped that all logicians and epistemologists read both these texts thoroughly.

(1) We have touched upon the problem of non-inductive sciences WDM 242v. (singular, private and universal, as well as transcendental idea),-- also WDM 291/298 (individuology or idiography; WDM 298/302 (same idea-historical: Windelband/ Rickert (300); WDM 302/304 (definition); WDM 304v .(Coimbra); WDM 305/318 (appl. models).

(2) Windelband and Rickert's genius intuition (where we put their Kantian background in parentheses) can be summarized as follows.

(a) Until now - Windelband speaks in 1894 (Geschichte und Naturwissenschaft) – (History and science), the logicians and epistemologists divided the sciences purely according to its object, i.e. one or another sector of reality. What is and remains valid.

(b) Do we, henceforth, divide also according to its method, which is twofold. there are sciences which isolate and describe, resp. explain the singular (observation,-- hypothesis, test). There are, traditionally much more strongly emphasized, sciences, which isolate and describe, resp. explain the universal (general) (observation,-- hypothesis, test).

Note **-** As Bochenski, o.c.,127, briefly, says:

a. if A (preface), then B (postphrase); well, B (postphrase); so A (preface);

b.1. if the preposition (A) is a generalization ("if all, then some or at least one", then there is inductive reduction;

b.2. is the prepositional phrase, however, a singular statement ("if John is the son of his father, then probably similar traits to Pieter, his father") , then there is non-inductive (idiographic, individuological) reduction.

Of the latter, Bochenski, o.c., 163, gives an example: "Why did Napoleon start his campaign so late? Because he could not gather the necessary supplies in time". The hypothesis (explanation) is singular. Not some law of nature.

WDM 396

Note **--** As both Windelband and Rickert explicitly state : both views are complementary.

1. I can, e.g., replace "If John is his father's son, then probably similar character traits to Pieter, his father" with "If 'a like'; then probably in John similar character traits to his father Pieter". Indeed : with a sometimes striking regularity, children resemble their parents (which is a kind of induction or generalization); therefore, one can also infer the character resemblance between Pieter (father) and Jan (son) from the premise of generality. Pieter and Jan are, then, mere "applications.

2. Thus Windelband also says that biology, which is usually nomothetic (inductive induction) - it studies life - can sometimes be idiographic: for example, when it deals with the historical development of precisely "one biological species (J. Freund, o.c., 107). This is, then, a singular type of life.

Note.-- **(1)** Ch. Peirce's famous scheme (WDM 339, *note*) is, therefore, only applicable in the inductive or nomothetic reduction (observation,-- Abduction (= hypothesis), Deduction (= derivation of a test) and Induction (= generalized or nomothetic test).

The same consideration applies to Jan Lukasiewicz's schema (WDM 339; 344). The designations (all, whole), there, are valid for the nomthetic reduction. Not for the individuological one.

Note.-- The singularizing type (idiographic) may, perhaps, seem a banality. And yet! *Jeanne Parain-Vial, Philosophie des sciences de la nature* (*Tendances nouvelles*), (Philosophy of natural sciences (New trends),), 1983, 94/97 (*Les structures dissipatives de Prigogine* (WDM 102)), 191/194 (*Prigogine et Stengers*), where we learn that, according to Prigogine and Stengers, also in non-biological nature unforeseeable and therefore unique processes occur, teaches us that idiography represents a much larger proportion than classical deterministic and "inductive" (emphasizing the general one-sidedly) science imagined it to be.

Appl. model.

(1) We open, very carefully, a water tap : the drops begin to fall, with identical (and therefore predictable, calculable, deducible from an initial state) intervals.

Open a little more: the drop accelerates regarding rhythm (increased frequency). But remains regular and predictable.

WDM 397.

(2) Still opened a bit of measurement, the tap enters a critical phase : the drop shows, now, a totally irregular rhythm.

Consequence: from this moment we cannot calculate (from what goes before (the omen)), predict what follows (the sequel; WDM 198; 371).

The ‘system’ ‘running water tap’ has -- just now -- passed from the orderly - deterministic predictability and deducibility (from what goes before) to a state of disorderly inner workings or ‘impetuosity’.

(3) If we open still further, a continuous jet of water appears: the ‘system’ returns to its predictable and deductible state. Determinism regains its rights.

(4) Until - with still increasing opening - the drop, again, becomes impetuous (unpredictable, undeductible).

This tap test was analyzed, in great detail, by a study group at the University of Santa Cruz (New Mexico).

Appl. model.-- We examine the process, which represents a burning cigarette.

(1) We light a fragrant Mary-Long cigarette: to a few centimeters above the seat of the fire rises, in an uninterrupted manner, a regular column of smoke. The path taken by the smoke particles can be deduced from some sort of sign (position).

(2) Suddenly - one never knows just when - the same smoke particles move “impetuously,” in erratic circles.

Summary:

(a) ‘Again - as with the water tap in Santa Cruz - deterministic movement, which does not involve ‘chance’,

(b) which, suddenly, seemingly without ‘cause’, turns into disorder, ‘chaos;-- a form of indeterminism (with the non - deducibility).

Bibl. st.:

-- *Suren Erkman, l’ actualité scientifique*, in: *Journal de Genève*, 28.11.1 87 (Samedi litt., vii).

-- *Further L’ordre du chaos, Belin, Bibl. pour la science*, Paris,, 1987;

-- *A.V. Holden, ed., Chaos*, Manchester university Press, 1986; Proceedings of the IEEE, August 1987;

-- *H. Degn et al, eds., Chaos in Biological Systems*, New York, 1987.

This process is also called ‘deterministic disorder’,-- studied since the beginning of this century, in different fields, possibly with new mathematical formulas. Only one singular moment ‘decides’ for mysterious reasons (‘factors’).

(1)

Table of Contents.

Having said what intention (introd. to philosophical thinking) underlies the texts, we turn to the schema.

a. *Ontology* (= theory concerning reality, insofar as reality ("being as being" says Aristotle),-- where WDM 2v., gives one example ('appl. mod.') of this -- viz. even the signs (WDM 51/53.1) -- seemingly so 'unreal' -- of the arithmetic or logistic theory of thought (WDM 231/241) are, in ontological language, 'non-nothing', i.e. 'something'(= a kind or type of reality). Derivation (= inference): even those signs, according to some logicians, so far from any ontology (= metaphysics), fall under the domain (field of knowledge) of an ontology.

Note.-- Immediately we give the two main forms of any possible logic (or even logistics).

(i) *deductive reasoning* (If a preposition, then a - logically deducible - postposition. Well, a prepositional phrase. So - logically - deductively - a Nazi).

The appl. mod. (pieces of phosphorus) is limited to the inductive form of deductive reasoning (WDM 395, according to Bochenski's representation, gives, thereof a non - inductive model).

(ii) *The reductive reasoning* (If a prepositional phrase, then a - from it, at least provisionally, logically deducible - postpositional phrase. Well, a therefrom - in principle, deducible - after sentence. So, provisionally, a prepositional phrase).-- The appl. mod. is, again, inductive.

b. *Harmology* (order(s) doctrine).

This is the theory concerning the methodical ordering of a multitude of data ('being'), which, by assumption, exhibit somewhere a unity (a distributive, 'metaphorical', or a collective (metonymic unity or coherence).

Note.-- Since the course must be ontological, the ontological basis of any coherence ('unity'-in-the-quantity) is exposed. To this end, the identitive language since the (auxiliary) verb 'to be' -- base word of all ontologies -- is a strictly identitive verb. After all, when we use 'being' ('I am tired', 'I am from Antwerp'), we mean some identity, i.e. either total identity (which is expressed in tautological sentences: 'I am myself', 'An is An'. -- 'Truth is truth') or partial or partial identity ('An is beautiful'),-- more often called 'analogy'.

(2)

The Analogy, usually called ‘relation’, is - essentially - twofold.

(1) If I see more than just one (singular) bird, then I summarize them e.g. by saying “all those little animals there are birds”. Or if I think of all birds, then I summarize them all. The ‘being’ ‘(‘beings’), which I mean, are identical under one point of view (what is called ‘common property’ in the theory of sets), viz. they are all birds. They are, all of them, one copy of them.

The identic trait is spread (hence: distributive structure) over each copy.

(2) If, however, I see only one feather lying in the forest, in which I am walking, then I summarize that feather, but differently than before, with the rest (division, complement) of one and the same (= identical) bird. For instance, I say: “This feather is the feather of a raven”. I am not thinking then of all the ravens, but of the whole raven (the ‘system’ or coherent whole). All the parts of the raven, however different, converge, run together, into , one and the same raven. Collectively, all parts are identical, i.e. they belong to one and the same whole or system. One says :’collective’ structure. together they form a metonymic analogy.

Note.-- What WDM 3v. (comparative method) briefly sets forth, that WDM 104/227 sets forth at length : all ordering presupposes, after all, that one first compares what one orders,-- in order to see identities and non - identities.

C. *Thinking and Methodology.*

Thinking, at least orderly thinking,

(i) ordains, ‘things’, beings (= ontological foundation),-- ‘data’ in more ordinary commons language,

(ii) organizes, by comparative method (sometimes called ‘analysis and synthesis’), concepts (ideas, in Platonizing language) -- by conceptual content and by conceptual scope (‘intensional’ (note: not ‘intentional’) and extensional).

Once, in our thinking mind (= intellect and reason), concepts appear in an ordered way, judgements (= propositions) become possible. at once the way is open for reasoning,--in the form of conditional sentences (WDM 323; 325: hypothetical sentence). If there are two, which, together, make up the prepositional phrase, then that reasoning becomes a syllogism (concluding sentence).

(3)

Opm.-- Methodology.

'Methodology' is applied logic.-- The axiom, par excellence, as well of logic as of methodology, is the axiom of necessary and) sufficient reasons or grounds ('thinking conditions').

The ancient Greek thinkers called this 'arche', principium, 'principle', i.e. all that, as a condition of possibility, governs something (e.g., a whole domain or, e.g., precisely one factoid).-- That very thing brilliantly applies a Jan Lukasiewicz (WDM 2): "If A (= preposition), then..." The 'if-phrase' mentions the 'arche', that which governs the after-phrase.

By the way: the whole syllogism has an analogous (part-identical) structure, which appears when one formulates it conditionally ('hypothetically'): 'If A, then B and if also A, then B' (deductive scheme); 'If A, then B and if also B, then A' (reductive scheme).

In other words, B becomes "intelligible" (understandable, logically conceivable), if A.

So far WDM 1/9.-- Learn these pages well: they are the essence of the whole text, which is before you.

I.-- *Ontology* (9/96).

It is not the intention that every student goes through the whole text with a view to the examination.-- What matters is that one has a good grasp of a few basic concepts. Reason : they master (are 'arche') all that follows.

I.A. *philosophy* (9/20).

This is broken down into four times.-- (1) The Archaic - Antique idea 'wisdom' (9/11),-- remember especially the Harvard principle (WDM 11), which holds broad information ('general culture') as a presupposition of specialization.

(2) *The Antique-Greek concept of "philo-sophia"* (literally, "wisdom longing") (11/14),

either "general development" or "philosophical specialization.

(3) *negative definition.--(*15/20).-.

Neither worldview (common sense/ (Existential)/ artistic/ religious) nor ideology (construction of ideas, in the service of an interest) nor professional science (which empiricists and Positivists do advocate) are, without more, philosophy.

(4) *positive definition*.--(20).

Insights, insofar as they concern the totality (all real things; whole the real things), preferably systematically worked out and tested (verification),--those are philosophical insights.

(4)

I.B. *Ontology* (20/9).

Theory concerning total reality - all being, every being in its entirety. - In terms of- 'being' and 'being!-- More than one type (metaphysical/ formal/ fundamental').

'Method'.

A. Fouillée sees the method analogous to that of the professional sciences,-- namely in the Platonic sense (lemmatic (= hypothetical) -analytical (de- or reductive) (WDM 21/25). In other words: sound - logical.

(A).-- The notion of being(de) (25/29), viz. essence/existence (26v.).-- Remember very well 'forma' (being-form. 28)

(B).-- The being-judgments (29/ 33), -- viz. identity-law, incongruity-law, excluded-third-law.

(C).-- Misunderstandings (34/65).-- Remember WDM 34 (indirect evidence).-- Further remember some example of misunderstanding,-- esp. of modal nature (38/65). Also the distinction 'Sein / Sollen' (61v.).

(D).-- Intentional ontology (65/96).-- Remember what is "noble yoke" (Platon: 66/68) and "intenionality" (Scholastic: 68).

Applications: transcendental or comprehensive (concerning the totality) truth (71/73: if something, then 'true', i.e. amenable to rational -reasonable insights), value (74/81: if something, then amenable to value judgments), unity (82/96; if something, then distinguishable from the rest and, at the same time, situable in the whole).

That "unity" (coherence in the form of "all" and "whole" is the foundation ("archè") of harmology.

II.-- *Harmology (order(s)) theory* (97/227). We give, first, the major classifications.

Introd. (97/104; remember 'parataxis' (nevensch.)/ 'hypotaxis' (subordinate), analogous to 'collecting' (distrib.) and 'disrupting' (coll.).

A.-- *The comparative method* (104/116). Remember especially WDM 105 (comparative diff.), as well as WDM 107 (inward and outward diff.) and WDM 110 (measuring diff.), -- with, of course, 'MODEL' (112).

B.-- *The tropological cf.* (116/123) Metaphor, metonymy, - both synecdoche).-

C.-- *Summative induction* (124/152).-- Remember particularly well WDM 124 (logical square) and WDM 125 (rule of three).

***Note.*--** Remember e.g. as a model of reductive reasoning WDM 126 (summ. ind.);-- distinguished from the amplificative (expanding) induction, the summative governs all thinking.-- Very well imbibed WDM 143 (distr./ coll. idea).

(5)

D.-- *Antithetical cf. (*153/195).

The reflexive (do not confuse with "reflective," which is one application of it), explicable (addition), reciprocal, and transitive relationship (153v.) must be known as the basis of sociometry (155)

The contradictory, ordinary (contraire), (cor)relative, and robotic negations (157/159) complement the preceding scheme of relations. -- The taseology (tension theory) (159/167) is an application of both groups.-- The dichotomy (complementation; 168,-- with 'figure/ background' (ibid.) occurs constantly, in all analyses.-- The idea 'differential' (179/189; 189/195) comes, extremely often, in handy.-- Remember well WDM 189 (conf. = combin.) + WDM 190 (diff.). -

E.-- *Systemic analysis* (194/227).

Learning to analyze methodically (=systematically, nonhaphazardly) is the common theme of these pages. Pick one model (that fits you). But all should know WDM 205/208 (text edition); reason: all final works have a similar structure. Especially WDM 207v, is the core.

Note.-- Deweyian experinentalism is one application of the Platonic lemmatic - analytic method (224/227). It is, in a sense, a model for all reductive methods (go into it, please).

Note.-- Obviously WDM 86v. (structure: collection structure 'metaphorical', 'distributive' and/or system structure 'metonymical collective),-- these pages are central ánd in the course ánd in current rigorous - scientific thinking.

III.-- *logic* (theory of thought: 226/340) ***and method theory*** (340/397).

The comparative ordering of "being" (ontol. basis) or "data" is the presupposition (postulate, axiom) of correct thinking and of working methodically. - The core : "if..., then" (=content, implication).

III.A.-- *Logic* (228/340).

So-called 'classical' (i.e. traditional) logic has just one object: 'if, then' reasoning (including syllogisms or 'conclusive reasoning'), but these are based on concepts (hence: ideas -or conceptual theory) and on judgments (hence: propositional or judgmental theory).

Preface.

(i).-- The Platonic ideas "all," "whole," and "world" (228v.).

(ii).-- Comparative method, core of logic (229/231). Good imprinting.

(iii).-- the logistic connectives (231/241: contrad., log. prod., log. sum, entailment (implication), negation (negate)).

(6)

III.A. -- (I) ***Theory of concepts*** (241/288).

Remember well :

(a) idea / term (241v.) and

(b) conceptual content (intensity) / conceptual scope (extension) (242/246).-- The idea ‘class’ (245).

(c) The analysis of the idea: classification / determination (= definition) (246/265).

Note.-- ‘Science’ is the conversion of the verbal (= nominal) definition into the business (‘real’),-- o.k.a. testing (verification/falsification). remember, therefore, well both definitions (250; 252).

(d) The ideas (concepts) viewed ontologically, i.e., insofar as they reflect reality (265/288; remember, from them, precisely one, expression: ‘ens rationis’, thought-thought,--a ‘not-nothing’, but within our minds (270).-- Choose from that ‘mass’ one type of testability (271/281).

III.A. -- (II) -- ***Idiographic (individuological) theory of understanding*** (289/318).

The form of being (WDM 5; 28), expressed (thought) in a concept, is, among other things, twofold: universal (general) and singular (individual, unified).

(a).-- Individuology (= idiography (291/298);-- the rare (exceptional (293/295), the original (295v.).

(b).-- The only one in the history of ideas (298/302; remember wilh. windelband: 300).

(c) -- Comparative definition v/h singular (302/304).

(d).-- The method v. Coimbra (304/307).

(e).-- The convergent induction (307/313).

Note.-- For reasons of capital interest remember well what ‘black - box method (308) is.

(f).-- Idiography a literary genre (313/318;--remember well: psych.-characterolog. PROFILE (314v.).

III.B. -- ***judgment doctrine*** (319/323) -- Remember ‘judgment / proposition’.

III.C. -- ***theory of reasoning*** (closure doctrine) (324/339).-- Remember especially Lahr’s definition (324).-- Important, for three years, will be : Aristotle’s tripartite ‘apodictic’ (absolutely certain)/ ‘dialectic’ (disputed)/’rhetorical’ (emotionally-probable) (326).-- Subject science and ‘simulation game’ as models of ‘if-then’ derivations (327): particularly well remembered.-- Briefly address 335/339 (CH.S. Peirce’s tripartite **(i)** deductive, **(ii)** inductive, and **(iii)** abductive syllogism (339: diagram)).

III.B. -- ***Methodology*** (340/397).-- The whole course runs, logically, to the study of a few, rare but fundamental methods (approaches).

(I). epistemology on professional science (341/343).

(II). the two basic methods (343/350).

This is the chapter par excellence.

(7)

Remember, of course, especially WDM 344 (schema v. Luk.).-- One recurring theme, today, in professional scientific circles is “hard science versus soft science” (WDM 345), rock-hard versus “soft” sciences. Not only day-to-day life, not only research work,-- all occultism has the structure of the Neo-Gnostic card game (WDM 348); one has to guess, again and again, according to which principles phenomena occur.-- Now the special methods follow.

(II).-- ***The phenomenological method*** (350/360).-- **(A)** Fen. as ‘science of the phenomena of consciousness’ (351/355); **(B)** Fen. as ‘zu den sachen selbst’ directed science (355/360). - The “being” of “phenomena.

(III).-- ***The formalism as a method*** (361/367). --**1** .-- Semiotic pedestal (361).--**2**.-- Formalism (362/367).-- **A.** The meaning-reduced sign (361).-- **B.** Placement of meaning-reduced signs (= formalism): **a.** admissible signs (362v.); **b.** ‘calculus’ (= account; 363).-- **C.** Formalism model: the traditional arithmetic (363/366): intr: Cartesian ordering (363); **a.** main calculus (353v.); **b.** written calculus (364);-- **c.** letter calculus (Viète): **c1.** algebraic model (355v.); **c2.** logistic model (366).-- Applications: a mathematical text and the ordinator (366v.).-- Arithmetic thinking.

(IV).-- ***The axiomatic-deductive method*** (368/387).

1. Everyday and professional science models of ***deduction*** (336/381).

A. Regressive/ progressive deduction types (368v.).-- **B1**. Banal-daily model (369v.)

Notes.-- The ‘dialectical’ deduction with Hegel (370/373).-- “It had to come” (371).-- B2. Subjective scientific models (373/381):

(i) *P. Diel, Psychologie curative et médecine* (373/375).

Note.-- The humanities and humanities (375/379);-- footings thereof (377);-.

(ii) *Anderson/ Johnstone, Natural Deduction* (*Example of an Axiom System: Simple Order*) (379/381).

2. ***Axiomatic-deductive system*** (381/387).-- **a.** Axiom (383); **b1.** axiomatic system (384/386); **b.2**. main idea (non-intuitive; expressions and judgments system; (386v.)).

(V).-- ***The reductive method*** (388/397).

Kult. - hist. introd. (388/391).

1. Principles (a. empirical - exper. and b. ax. - ded.; 392).-

2. Main stages (=observation.; hypoth.; deduct.; review ; 392/394).

3. Nomoth. and idiogr. Types