4.1. Philosophy: 1st year.
Hivo 1978-1979:

W/1.

Word explanation:- Philo.sophia, Lt. philosophia, means, especially since Pythagoras of Samos (-580/-500), the 'desire', the striving for sophia, sapientia, wisdom,- an ancient word which in the archaic world denoted the powerful knowing of the magician (sorcerer, witch).

The English 'witch', the Russian 'viëshchii' (mane.), resp. 'viëdma' (female) - the root, 'knowing' is in it - still bear witness to this: the magician is he, resp. she, who 'knows'. But immediately the difference is clear: the philosopher is more pretentious, less practical! He is only a philosopher, not a sophos: on the way to knowing, investigating.

Preface.

A. ***Agological***

Agology, pedagogy, (agein = (be/get) led), treating both (peda- or) child (and andra- or) adult education, is the study of agogia, guidance. The philosophical education at the Hivo is

(1) not dilettantically, i.e. methodlessly knowing something about everything, but

(2) (in)formative, i.e., aligned with information as basic training, yet

(3) not specialist, i.e. methodical as the informational level, but maximum (especially regarding ready knowledge (knowing everything about something)).

B1. ***Epistemological.***

Epistèmè, scientia, (professional) science, is the object of study of epistemology, which distinguishes the following types of knowledge, among others:

(a) external type: tradition (lore) as a stable and fashion as a changing feature (e.g. existentialism was a fashion after W.W. II; later (May 1968) neo-Marxism; today structuralism); these feature forms are more about the human being;

(b)1. internal type: here it is knowing more personal conviction (internalized), the so-called opinion(opinion), either personal opinion or group opinion; it contains an objective side, the world- and life-view (Weltanschauung), and a subjective side, the consciousness (e.g. one speaks of the primitive -, the class -, the religious consciousness);

(b)2. internal type but hard-headed and rigidly convinced: dogmatism (advocating insights as fixed dogmas), rather religious, and ideology (taking hard positions on profane matters: so e.g. the so-called social ideologies that emerged in the XIXth century especially: liberalism, socialism (Marxism, anarchism), solidarism, nationalism);

(c) more modest type: searching, methodically, for truth; reasoned but unpretentious; here we situate religion (in its non-dogmatic form), art (in its non-dogmatic or ideological form), especially, however, professional science and philosophy (again, insofar as they are not dogmatic or ideological, of course);

Professional science and philosophical science are first of all directed at the general (lawfulness, so-called ‘abstract’ insight); ‘art is first of all directed at the individual-concrete (living cases and examples); even non-specialist or philosophical religion Art is primarily aimed at the individual-concrete (living cases and examples); religion, too, does not proceed in a scientific or philosophical manner; yet both aspects of knowledge converge: Jean-Paul Sartre (1905/1980), the great existentialist Marxist, wrote novels, in which his abstract concepts are expressed; artists proclaim theses. religions contain a philosophy.

BII. *Philosophy.*

(1) The philosophy par excellence is the Hellenic or Greek: Thales of Miletos (= Miletus) (-624 /-545), in Ionia (Asia Minor, was the “father” of philosophy. Historia, inquisitio, research, - that was the spirit of the port city of Miletos, meeting point of Near Eastern and Hellenic cultures. Historia is free, non-authoritarian or non-traditional research and thus personal thought.

(2) The aspects of the historia are twofold

1/ empeiria, experientia, experience, i.e. -contact, with the individual - concrete cases;

2/ analusis, resolutio, dissection, the articulate examination of the structure (arrangement) of cases, and also theoria, speculatio, (examination), the breaking through the appearance of something, the abstract side; the result of historia is crisis, the judgement tested (viz. against facts and concepts): cf. critical, critique (value-determining).

(3) India, (from the Rig-Veda, I - the millennium B.C.), China (from the JiKing); Japan (under Chinese influence) also know philosophy.

W/3

Doctrine (logic, dianetics).

Preface.

The three-year "philosophy" course will study successively three major forms of thought:

(1) ***archaic religion***, i. e. that religion which, from pre- and protohistory, has evolved from the primitive stage of culture to antique and mid-century religion; religion is a form of thought, i. e. a way of coming to terms with life and the world thinking;

(2) ***Greek philosophy***, with its Eastern parallels (India, China - Japan) and its Western elaboration, is the second great form of thought of mankind;

(3) ***modern and contemporary professional science***

This is third major form of thinking: since the days of Galilei (l564/1642), mankind has been thinking more and more scientifically-specialistically, preferably as "exact" as possible. The question arises: what is thinking, in all these cases? The theory of thinking tries to answer this question.

Introduction.

(a) Linguistics can set us on our way. Legein (Gr.), legere (Lt.: related to our reading (think of the corn's ears, gathering, collecting them). Aren reading, searching the ears of corn is searching gathering. Ho sullogos, hè sullogè, Gr., means collection (set of things); ho kata.logos means collection list, catalogue. Legein also means to pronounce sound words together; Ho logos, ratio, reason, thinking and speaking power, story.

(b1) *Plato* (-427/ -347), founder of Academic Philosophy with its theory of ideas, in his *Faidros* (249), says: Ek pollon ion aisthèseon (= what emerges from many observations), eis hen logismoi xun. airoumenon" (= that is summed up into something one (= unity) by thought).

Aristotle (-384/ -322), Plato's pupil, founder of the Peripatetic school with its theory of forms, in his *Politica* (l:5), says: "Ho dè logos architekton" (= thinking is like the master builder ('master builder')), i.e. it builds up to a whole (system); it is constructive.

(b2) *S. Augustine* (354/ 430), main figure of the Patristics, author of *De ordine* (= About the order), says, in his *Confessiones* (10): "Ea quae passim atque indisposite memoria continebat, cogitando quasi colligere" (= the data that our consciousness held loose and disordered, on the basis of thinking as it were collect).

S.Thomas of Aquinas (1225/1274), the main figure of Scholasticism (= Christian-medieval philosophy), says: "Sapientis est ordinare" (= for the wise (= philosopher) it is characteristic to order).

So much for sentences from the four greatest ancient and mid-century thinkers.

W/4

(b3) Charles Sanders Peirce (1839/1914), founder of N.American pragmatism (from which evolved the later pragmatism of e.g. a William James (1842/ l910)), a typical modern thinker,-dissected, in the line of the same great tradition; who conceives of thinking as collecting order, the act of thinking as follows:

(1) in a first approach our consciousness perceives what he calls 'Quality' i.e. capacity, quality, a given purely in itself, unrelated ('absolute'), without reference to anything else; - Jean Piaget (1896/1980), the intelligence psychologist, would speak here of 'centration', i.e. attention in the form of becoming absorbed in something (centered, attention merging into something);

(2) the second approach to attention focuses on what Peirce calls 'Relation' i.e. relation: the data is seen in its relations with the rest of the field of consciousness (with other 'qualities', data);- Piaget would speak here of a second form of attention, i.e. co-ordination, arrangement, order.

I. *Order, taxeology.* **.**

Cabs, ordo (Lt), means arrangement, order(ning), organization. We now introduce some basic concepts of an order theoretical nature.

Differential

Differential is a dichotomy (= dyad, binary reality), one term of which is positive (affirmative) the other negative (negative) and between which (interval) is slid a both positive and negative term representing an intermediate. Examples are:

graceful (= graceful)	clean	exalted (sublime)
humorous	ugly (innocuous)	tragic

One can see that this ordering of aesthetic values 'clean/ innocent' spreads according to the triad 'not-large/ medium/ large' (= scale differences) The same scale scheme is found in the economic field:

small business	medium enterprise	large company

J.H. Walgrave, Is Christianity a Humanism? in *Cultural Life*, 1974/ 2 (Feb.), pp. 147/ 156, says : "To that question three answers are logically possible: first, Christianity is a humanism; second, Christianity is not a humanism; finally, Christianity is in one sense, but in another sense not a humanism.

W/5

These are three propositions in which the subject is the same, is: Christianity is a humanism; next, Christianity is not a humanism, finally, Christianity is in one sense, but in another sense not a humanism. These are the three propositions in which the subject is the same: Christianity. The predicate is also the same: humanism. The praedicatio or saying is different: affirmative, negative or subject to a distinction to be observed. In this case it is not about scale, but about similarity and difference between two cultural currents, but the opposite extremes with a nuanced middle term are there again. What general scheme is hidden under these two - three examples ? It is the similarity differential:

identical totally similar	analog, analog non-totally similar (partial, partial gel.)	contradictory not at all alike totally different

There are further shades or intermediate values to the left (very similar, quite or fairly similar) and right (quite different, very different) of the middle term, of course.

Well, to think is to see unity in a multitude (i.e. of data or qualities) and to see similarity among all the different. Difference and multiplicity go together, likewise resemblance and unity.

Configuration

Configuration is a multiplicity of places which, however it is done, shows unity. Configuration theory, combinatorics (cum+ bini =each two; so-called distributive or partitioning noun in Lt.; hence combinare, to unite two by two, combine); also: taxeology. 'Configuration' can also be translated with 'form', but then placement form.

Examples: the differentials above represent three places, not random or haphazard (stochastic) but ordered according to the so-called morphism (= ordering principle, structure) '-, -/+, +' (if necessary with intermediate values).

Types: syntax (= placement, arrangement) exhibits two main types:

(a). ***juxtaposition:***

one fact is simply placed beside another; this type gives rise to a set, a class, i.e. the broadest kind of collection; Greek name: parataxis, paratactic;

(b). ***Dissimilarity***: one fact is "above" (governed), the other is "below" (is governed); giving rise to system, system; Greek name: hypotaxis, hypotactic; a bag of beans of the same color represents a set or class (multiplicity of elements, members) but with unity (= similarity) of property, here the color; the bag itself in which the beans are situated, is a system(system) a multiplicity of threads, woven into unity of cohesion (here the common property is the cohesion).

Class doctrine (set theory) and systematology (often but in sloppy Greek: systemology) arise from this as the two forms of henology (= unity theory).

The paradigm or textbook example of combinatorics or arrangement (= taxeological workaday) is tinkering: tinkering apart indicates a given unit (= structure, identity); tinkering together indicates a unit to be found; the two main types of combinatorial behavior: with one, the configuration is there; with the other, it is constructible (heuristic).

Thinking is the adult (and intellectual) form of tinkering; while tinkering, the child (or tinkerer) thinks implicitly, unconsciously. Thinking is giving place or situating.

II. ***Clarity theory*****.**

Thinking is interpreting, giving a meaning to a given. But to do this, the given must be clear. The clarity differential highlights this:

(i) of an assertion one says, e.g., that it is true or yet sham or pseudo-true, i.e., untrue but with the appearance or lie (pseudos) of being true.

(ii) in biology, one speaks of genotype (Mendel's theory of heredity: the living being has not only the genes, but also the corresponding appearance or mode of appearance of them) and of phenotype (pheno-: cf. Gr. fainomai, I (appear); fainomenon, phenomenon, phenomenon; thus, appearance type); - what is hidden under these two examples.?

equal	unequal, different
real equal/sham equal (pseudo-gel.)	Really different/ seemingly different

W/7

The applications are many.

(l) Flatterers, lawyers, diplomats, hypocrites (think of Jesus' diatribe toward the Pharisees), of course each in his own way, obscure their true intentions, knowingly;

(2) Unconsciously, the hysteric(or hysteric) obscures for himself and others the true motive.

Typology (= species theory).

Two, threefold occurs disguise ,concealment, obscurity:

(1) ***by omission*** (weakening of the fact: e.g. Jantje, questioned, simply conceals his part in the noise; S. Freud (1856/l939), the founder of psychoanalysis (investigation of unconscious, factors in the psyche), claims that the night dream 'condenses', condenses by omitting what must not be exposed);

(2) ***by confusion*** and this double:

(2)a by ***shifting***, interlocking the adjacent (Jantje shifts his share onto a comrade who was there; the night dream allows contiguous elements to interlock);

(2)b by ***inversion*** (the opposite is put in its place: John says flatly that he "wasn't"; the night dream insinuates just the opposite of what he wants to say).

Philosophically and professionally, semblance occurs under the name of problem (posing but unsolved (= unclear, indistinct)) and of mystery (problem that seems unsolvable; impenetrable).

Criticism is precisely the shifting of apparent data (critical spirit or attitude). The typical modesty of the philosopher betrays his lack of clarity (fallibilism, Peirce would say, sense of fallibility).

The so-called symptom (tekmèrion) is what emerges from under the appearance of reality: one thinks of the so-called semiology (semiology) or symptomology of medicine, which, through the symptoms, is confronted with the disease itself.

W/8

III. *Clarity theory.*

Thinking is interpreting, making sense of, but now seen as a relation between the given (to be interpreted) and the interpretation as addition, i.e. one - unambiguous relation between the given (object) and the - what C.S. Peirce calls - sign, sign or symbol which, in the interpretation as act, is added to quality, relation (= object of interpretation). Clarity is thus: relation between two data by virtue of addition.

Typology.

The signifier adds three types of signs to the data:

(1). mental: a thought thing, (representation of a thing, understanding, concept, thought content, introspectively susceptible;

(2). linguistic: a speaking sign (sound sign: words, sentences) and a writing sign (written language).

Sign theory (semiotics (*C.W. Morris, Foundations of the Theory of Signs*, in *International Encyclopedia of Unified Science* 1:2, ,Chicago, 1938) or still semiology (but not in the narrower sense of medicine) (*F. de Saussure* (1857/1913, *Cours de linguistique générale*, (General linguistics course,), (1916))

Sign is all that stands for (presently states, takes the place of) and refers to something else to which it is added. The latter is the signified. Signs are ‘economic’ (= economical): they are much more ‘manageable’ than the signified.

The invention of the Lydians (Kl.-Az.), money, sign for economic value-(good(s)), is much more manipulable than bags of wheat or whatever. A scheme (e.g., map) one puts in one’s pocket; the by a scheme meant (e.g., the landscape itself) is not!

One also speaks of a symbolization process: to a given fact, an image (picture that indicates the meaning of it) is added.

Relationship ‘language/ thinking’

The mentalist emphasizes the inner character of thought; the linguisticist the outer character; indeed, he claims that language and thought are virtually identical or that without language no thought is possible.

Right is that, in fact, the child grows up in the mother tongue context and learns to think within that framework (thinking frame); right is also that a speaking or writing sign clarifies the thinking sign, yes, makes it break through into full consciousness.

But - the behaviorists (external-behaviorists) notwithstanding - thinking is first of all an internal, mental process: a child, an adult uses a provisional word (‘that’) to denote that which it, already mentally (thought-sign) has within it, in its consciousness, without having the (correct) word at its disposal: “What is that?”

W/9

More than that: the behaviorist, - strongly, scientifically speaking - , by sticking to the external, perceptible by everyone, must, at some point, take into account simulating, feigning (assuming external behavior which, according to the code of conduct (= habit), means something else that the simulating, feigning means, internally); without minimal mentalism the behaviorist does not get around. External behavior is internal behavior: language is mentally braced.

Model Theory.

Within the framework of clarity, the term ‘model’ has its place. The starting point is the addition ‘one-single’ with its variants ‘one-single’ and ‘many-single’. Other names for ‘one-unambiguous’ are (Russell: one-one relation) ‘one-one relation’ or (Couturat: ‘bi-univoque’) ‘bi-univook’ (univoque = univocal; here, therefore, twice univocal).

The one - many ambiguous, but especially the many-one symbolization define the concept of model. The ancient Greeks spoke of reduction of multiplicity in reality to unity in thought; the Scholastics (800/1450) distinguished between the multiplicity or extensio (= extent) of a thought sign and its unity or conprehensio (= content);

G.W. Leibnitz (1646/1716), in the line of Scholasticians, spoke of denotatio (the multiplicity of the scope) reduced to the connotatio (the unity of the content). The attention may be spreading, enumerating (“I have babbled then and then again and then again”), checking the specimens, examples - denotative - or it may be summarizing (“I have babbled three times”) to mean the species, the type, the paragon - connotative.

The Economics Principle.

To control multiplicity through unity is to operate “sparingly” (economically). - Petrus Aureolus (d’Auriol) (+1322), a late Scholastic, formulated this principle (“The grounds for explaining something are to be limited as much as possible”: minimization!);

William of Ockham (before 1300, ± 1350), the late Scholastic nominalist, made it known. The relation ‘many-unambiguous’ is ‘economic’: the one concept ‘movie star’ (connotative) covers (refers to, depicts) all possible movie stars (denotative); the one diagram (scheme) of the line-up of a soccer team (front line; middle line; back line; - eleven players, some reserves; etc.) is applicable to all possible squares where soccer is played. A good Dutch word for denotation would be: the covering of a concept; a diagram (i.e., an understanding of a connection).

W/10

Regulatory model - applicative model.

The term ‘model’ is applicable wherever there is addition. The addition is isomorphic if the representation is one-sided (otherwise there is homomorphism). A portrait, for example, is a model; a painting of a person is still a model, but more ‘free’ (less precise, less one-sided); a first sketch of the same person is even less ‘model’.

The notion of ‘model’ has become two-fold commonplace: on the one hand, from logistics and mathesis, where ‘model’ is understood primarily applicatively (applicable) (e.g., if $Y=X^2$, then ‘^{2}’ squared is a model, i.e., one possible case (copy, application) of X^2 among many other ‘interpretations’ (= replacing general symbols with private or singular ones));

On the other hand, from the experiential sciences, where model is mainly understood regulatively (e.g. one speaks of Nils Bohr’s atomic model as the scheme (nucleus, electrons) valid for all possible atoms);

In other words: Logistically-mathematically, model is denotative (the covering); experientially-scientific model is connotative (the understanding). Sometimes it is application of the rule; other times rule of the application; - which is understandable ‘because the rule is conforming (conforming), isomorphic (Gr. Isos = equal; morpheme = form) with the application and vice versa, at least minimally.

Ready and clear according to *Leibniz*.

In his *Meditationes de cognitione, veritate et ideis* (Reflections on knowledge, truth, and representations) (1684), Leibniz calls an insight “ready” (clear) if it has a well-defined scope (cover), “clear” if it has a well-defined content. Matter of agreement!

To put it casually: the definition (= essence clause) is the articulation of the content, the classification is the articulation of the scope.

‘Display’ is perhaps still the best Dutch word for model (which can be of a regulatory or applicative nature).

Information.

The basic concepts of present-day science include matter (both concentric and eccentric or field matter), energy and information (intelligence); well, all that is model in reality is information about that reality.

Thus N. Bohr’s atomic model gives us information, information about the real atoms, which by the way behave according to that type (pattern, paragon, rule); thus the expression ‘4 + 3 = 7’ gives us information (here an interpretation in a denotative sense) about the formula ‘a + b = c’, - whereby it is so that the numbers1s behave according to the formula (rule) ‘a + b = c’.

W/11

Immanuel Kant (1724/1804), the critical idealist, once said “Ohne Erfahrung sind die Kategorien leer; ohne Kategorien ist die Erfahrung blind” (Without experience, i.e. denotative contact with actual realizations of fundamental concepts, fundamental concepts (categories) are empty, (not ready, Leibniz would say, without coverage or scope); without fundamental concepts, experience is blind (i.e. not clear in Leibniz’s language: ,it does not ‘see’, from the intense looking at the trees it does not see the forest). In other words, without the applicative model the regulative model is empty; without the regulative model the applicative is blind

Example: handling a computer, just like that, without theory, is something; but just a book of computer science with the abstract theory of the computer is also not everything, (the former is purely applicative,- experience; the latter purely regulatory, - concepts and schemata).

Kant wants to say that the two aspects of addition present in model belong together. Showing a cube (contemplative teaching) is one thing; teaching its description is another (theoretical teaching); the two together only constitute the real knowledge, real information.

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Application.

The judgment (statement, assertion, sentence, proposition) is such that the subject designates the reality about which something is said; the saying is a thought content; the saying expresses the correct relationship between subject and predicate.

If, for example, ‘humanism’ means ‘to realize the inherent humanness of terrestrial man purely inwardly’, Christianity is not humanism; in other words, humanism (in this sense, that is) does not occur in Christianity, is false in Christianity, is not a model for Christianity. If humanism means ‘to realize the “own human of earthly man among other things inwardly’, then Christianity is humanism in a certain sense; humanism (the saying) is true (= is model for) in Christianity (the subject), at least in a certain sense.

Individual-concrete model/ general (universal) model.

To sign is, according to C.S. Peirce, to represent a quality (something, taken absolutely) and/or a relation (something, taken relatively) in a sign, a sign (symbol).

Well, there are species names (= type symbols) and proper names (singular symbols). John is a boy’ shows as subject a proper name, as proverb a type name. So there is a double kind of signifying or symbolizing. The first symbolizes the general (that which appears in many denotations as the same in all), the second the unique or only (in the universe) (that which throughout many denotations always indicates the same difference from the rest of the universe).

W/12

John, as a boy, is like all possible other boys, but as an individual (= single person) he is only himself to the exclusion of all possible other not only boys, but realities. The species name abstracts (put in parentheses) from all that is not boy; the proper name abstracts from all that is not John. So there are two kinds of abstraction.

Cultural history: ancient Greek and Western rationalism has always emphasized the general; among other things, the rationalism of the Enlightenment (XVIIIth e.), which was a kind of culmination in it.

Romanticism (1780/1850),-in line with it, intuitionism, vitalism, existentialism especially,-all these cultural movements emphasized the individual-concrete: Romanticism defined the essence of something as the incomparable, singular core (of an event, a work, a personality) and immediately connotation (understanding) became individual-oriented.

The structuralism that responds to this is again rationalist: the individual concrete is "mere foam" amid "structures" (which represent the universal).

Concreteness.

Con.cretus, fused; - one should not think that the individual means isolation, isolation, individualism; quite the contrary! Romanticism put enormous emphasis on the 'organic unity', as it called it, in which the individual is situated. Lebensganzheid' it was called. Cf. *Fr. Schlegel* (1772/1829), *Vorlesungen über die Philosophie des Lebens*, (Lectures on the philosophy of life.).History and geography are professional sciences, but their object is not so much the universal as the individual: there is only one Ancient Greek culture; there is only one Napoleon; there is only one Mechelen; - and what is more, these single realities cannot be truthfully separated from 'the rest': Hellas is fused with the Near East, with Rome; Napoleon cannot be isolated from French imperialism; Mechelen cannot be separated from its surroundings. In other words, the individual is concrete (= contained in a whole, a totality).

Local color' means the individual and concrete of, for example, a site or a landscape: that which one finds nowhere else. The heimat (the region of one's birth), for example, evokes in man a feeling that is the representation and sensation of this local color.

Science and Art.

Science targets first and foremost the general; art the individual-concrete. This can even be seen in a so-called 'roman à thèse', i.e. a work of art that defends a thesis: the artist shows (= deictic or demonstrative character) a living, single and concrete case (= applicative model) and therein shows his thesis (= regulatory side) as it were in the flesh and in the act.

W/13

Summary. **-** Model is the point-by-point representation (= one-unique image) of ‘something’. The main types are regulatory and applicative models, as well as proper-named and species-named models. ‘Symbolization’ but then representational symbolization, is another name for model.

IV. Clue structures.

Structure. Structure is a relation (= fixed, identically unchangeable relation) between data (qualities, relations, signs, - to speak Peirce’s language).- One can also call this identity (but then partial) with G. Jacoby (1881/1969), ontologist in the line of N.Hartmann, in his *Die Ansprüche der Logistiker auf die Logik und ihre Geschichtschreibung*, (Logisticians’ claims on logic and its historiography,), Stuttgart, 1962),- identity namely between several data.

Also uniformity, law: a law (e.g., in physics: water boils at 100°) lays out a uniform, fixed relationship. In music, this occurs under the name ‘theme’ (with many ‘variations’ but where the theme remains unchanged). Invariant is also a good name’. Greek expressed and thus henological): unity in multiplicity! Also ‘common characteristic’.

Typology. The following species are eligible for dianoëtics:

(1) the distributive structure, which is the basis (not for nothing called the set algebra, this “order structure”); **(2)** the collective structure; **(3)** the kinetic structure; **(4)** the individuological structure; **(5)** the ontological structure.

Wilhelm Windelband (1848/19l5), of the Badener Shule (Neo-Kantian), distinguished between nomo.thetics and idio.graphic science.

Nomos, law (= generally valid rule); -thesis, positio, proposition; adj. thetikos, thetic; -law-making or law-stealing science focuses on the general (the generic).

Iuios, singular; -graphic; - idiographic or singular is science when it means the singular. The distributive, the collective, the kinetic, and the ontological structures are nomothetic; the individuological is idiographic.

(1) ***Distributive structure.*** **-** *Georg Cantor* (1845/1918), in his *Beiträge zur Begründung der transfiniten Mengenlehre* (Contributions to the foundation of transfinite set theory), (1895/1897), defines Menge, ensemble set, collection as follows: ‘Any summary M(enge) of well-defined distinguished objects m of our contemplation (= real, objective) or our thought (= ideal, conceptual, intelligible)’. This summary is called ‘common property’.

In other words: **1/** given a set of things or processes, **2/** interrelated (and therefore identical under that point of view) in virtue of a common property (which ‘summarizes’ them, - says Cantor), - behold a collection. Its structure is distributive.

W/14

universal	private	singular	zero case
sexual	specific		
u	p	s	n
All (the entire set.)	Some, some	Just one	No

In between: many (but not all)) few but more than one
Or, in the configurative (= diagrammatic) form of the logical square :

all (well) = u	some not = p
some do = p	all not = n

It should be noted that "some" can be rendered by "not all

All	Not all	All non

The mathematical sign 'greater than' (>) or 'less than' (<) applies to the aspects, parts of the set: 'u is greater than p'; 'p is greater than s' (and conversely:' 'p is less than u.'; 's is less than p'). 's' is the limit case (smallest possibility) of 'p (or, at least, limit possibility of it), on the one hand, and 'u' is the limit case of p; on the other hand: within these two limits 'p' moves .

One sees this e.g. in dropped textbook example of distributive structure, the rule of three: 100% is u, 1% is s, P is the interval to be calculated (usually denoted by x).

Take as another textbook example: Jan and Piet: many. Less a lot but more than one: two boys. One: Piet. An, Liesje and Roosje: three girls. Maria: one little girl; Six children.

The concept of 'class'. One does define as a 'class' a set or collection of so-called 'elements' 'members', 'zamels' that are computation-free, - rather, that possess the mere structure of division and partition as a common property. All classification is based on this. E.g. all that is red in the universe; i.e. all possible red data. The collections or elements can be interchanged. e.g. the blank sheets on which someone records a course) are all interchangeable (commutative operation) because they only possess distributive proportion (= identity) as a common property. They are so-called 'loose' elements, connected only by distributivity.

(2) ***Collective structure.-Also*** called systemic or systemic structure, it is present in a class with more than distributive identity, viz. coherence, co- and/or adhesion, being together or whatever one wants to call it. The zamels or elements here are twofold:

(i) parts (= natural el.) and/or portions (= artificial, random el.) and

(ii) aspects (= common properties, i.e. not property of the parts or sections, but of the whole seen from one or another perspective (= angle of view, part-determination partial interpretation); together they form the whole or system. They differ from each other if necessary (e.g. the parts of the body, the digestive, reproductive aspects), but are identical (= have a common property = are distributively structured) under the point of view of 'belonging to the same whole or system.

Function Here the notion of 'function' (role, dependence) is situated: the arm, the nose, the toe, - all these have a 'function' (=role) in the whole of the body; or even: they are mutually 'dependent' on each other (the nose, the stomach, once isolated from the whole 'dies', together with the whole which either loses its 'flawlessness' (integrity, unimpaired) or even its existence). In mathematical form: body = f (arms, stomach,- all parts and aspects) - read : the body is function of ....

Typology One does distinguish types of systems:

(1) objectale (showing object view): 'a heap of sand (very loose, but still somewhat cohesive); 'a crystal, a piece of steel;

(2) conceptual (understanding):

(2)a. simply understood: 1/ mathematical: a set of points, a number system; 2/ empirical: an atomic model (= what one puts on paper to represent an atom, for example), a diagram for a factory to be built;

(2)b. formal, axiomatic: **l/** mathematical: 'a book of modern mathematics, of logistics; **2/** technical: 'a programming language for a computer, but axiomatically constructed.

Note - Among the objective ones, also the more complex ones can be arranged: besides the physical ones enumerated above under (1), there are biological ones ('a living organism, 'an ecological system), psychological ones ('a "gestalt" from perception, 'a memory, the soul), sociological ones ('a group of manifesters., 'a factory; 'a sales system).

Machine. Formerly, before the emergence of contemporary systematology (= systems theory)- cf., Ludwig von Bertalanffy (1901/1972), Boulding, Gerard, Hapoport, who in 1954 founded the society for general systems research -, the word 'machine' meant apparatus of a mechanical nature; now, however, it means 'system' but with the emphasis on the functioning of the system: an atom is a small machine, a normal school is a sociological machine, etc. (there is continuous orderly movement; there is entry and exit, etc.). (there is continuous ordered movement; there is entry and exit, etc.).

Synchronic and diachronic systems (= correlations).

The word' machine' is system but diachronic. Another example of agreed system: Sonday., Monday., Tuesday, Wednesday, Thursday, Friday, Saturday, is the fixed order (= programming) of the obviously monotonous days (and it is circular or cyclic: they recur).

W/16

Complex and complicated (= complicated) systems.- The cyberneticians (= controllers) - since 1948: *Norbert Wiener, Cybernetics* (*Control and Communication in the Animal and the Machine*), 1948(1), the founding book of today's thematized control science - distinguish between complexity (= a large number of parts and aspects, of different natures (e.g. a card game, a school)) and complexity (= a large number of parts and aspects but of an identical nature (e.g. a telephone exchange with numerous identical cells are hardly 'complicated' but very complex)). Matter of agreement on terms!

(3) ***Kinetic structure.*** Also called topological structure in its (space)-mathematical interpretation; or still: variological (variationist) structure. People like Henri Poincaré (1854/1912) - topological arrangement - or G.F. Bernhard Riemann (1826/1866) - analysis situs - pointed at it as at a fundamental mathematical fact. One could speak of an interval or interspace structure.

Configurative:

A, C, B, - these are the 'places' of the configuration; A and C are the two extremes, limits or intervals within which B can move (hence 'kinetic' or structure of movement or change). All possible changes of B have as a common characteristic to be enclosed, caught between A and C. The multiplicity of the changes is governed by the unity of the interval.

Typology. - There are many types of intervals, as many as there are change types in the universe:

physical: a lump of clay, is malleable in all possible forms (shape-changing movement of parts), but one cannot vary its mass (if one makes it long, it will become thin, e.g.)

biological: the head and tail of an animal (hence: 'I find neither head nor tail in it' to mean that one finds no order in it);

technical: the tolerance or carrying capacity of devices (maximum and minimum; optimum between two pessima);

psychological: someone's irritability (too little, and someone doesn't sense anything; too much, and someone no longer tolerates it);

microphysical: W. Heisenberg at the time spoke of the 'uncertainties' of an electron in its positioning; yet the 'play' of the electron can be captured within an interval (statistical certainty).

Approach, slack, flexibility (pliability) imply interva1, are thus structured (= non-wild).

Geometrically: a sphere, cube, cylinder are metrically different but topologically identical; a ring (torus) is both metrically and topologically different from the three previous geometric forms; all four can be seen as distortions of one common mass form.

W/17

The steering or cybernetic structure.

The ancient Greeks, in the line of all myths of nations, for that matter, put the interval structure centra1. *E.W., Beth, Philosophy of Nature*, Gorinchem, 1948, p. 36, rightly writes: Cosmic society is governed by a divine law, from which human laws derive their legal force. Heraclitus (-535 / -465) expresses this as follows: "All human laws feed off the one divine law" (Diels (1) 12B, 14).

This divine law now includes:

(1) a rule for the normal course of things; **(2)** a rule, which lays down a compensation for every deviation from the normal course of things. This law of compensation - which one can still find in Ralph Waldo Emerson (1803/1882), - guarantees cosmic harmony."

With Herodotus (-484/-424), this steering structure is commonplace in his conception of history (see *G.Daniëls, Religious-historical study on Herodotus*, 1946: Herodotus calls this regulating event 'kuklos' (cycle, circuit); the plant kingdom, the animal kingdom, humanity, both individual and social, is 'governed' (controlled, ruled, directed) by this structure (o.c. ,93/94)).

Plato (-427/-34.7), e.g. *Timaios* 32A;-also *Aristotle* (-384/-322), e.g. *Politica* 5:5 (constitutions

1. which deviate (= par.ek.basis) from the correct direction(= telos, goal) and

2. which need to be improved (ep.anorthosis, correction; also called rhuthmosis, putting on the right wavelength), - not to mention Pythagoras (-580/ -500), with whom the 'harmony - thought is more than central, - they all know, that steering scheme; which, since 1948, *N.Wiener, Cybernetics*, has given a mathematical technical elaboration "rule/ deviation/ recovery (= feedback, feed back)".

The deviation shows the slack available to a goal-oriented system (and immediately the interval), but the multiplicity of deviations is reduced, through the feedback, to the unity' of the goal.

In other words, all possible deviations have one common characteristic, namely, to be neutralized by correctives and thus still achieve the immutable -one goal. Thus Herodotus says that the fearful and devouring animals are fertile, while the cruel and attacking animals have few offspring,-this to preserve the balance (= common goal of the two fertility types).

Thus, all myths of the peoples speak of a paradisiacal primordial age, upon which a fall, or decay, follows - as a deviation from the divinely desired goal, but with the prospect of a recovery - as a redirection toward the divinely desired goal. Cybernetic schema: purpose, deviation, recovery, goal.

Density.- The concept of density - think of Einstein's definition of matter as concentric energy and of field as eccentric energy - implies the same interval but with many more elements than in the dilution.

W/18

(4) *Ontological structure.*

Class, system, interval,-these are the three identities that allow us to order data. We must now situate these three within the ontological structure. For there is one collection which comprises all the others, namely what philosophy calls: being.

Opposite ‘being’, it is said, is nothingness,-which is nothing and therefore cannot be opposed to anything! Speaking and thinking are not the same here: ‘nothingness’ only means ‘being’ insofar as outside of that ‘being’ there is simply nothing. Is counted, by definition, to ‘being’: all possible reality; all that is not nothing; all that, however is something.

A concoction is not-nothing but something. A merely possible thing is not-nothing; but something-: the fear of a possibility proves that it is more than the utter or absolute nothing: the calculation of possibilities proves the same.

Past, present, future These are “real,” but not all are currently real. The past is no longer (understood: currently) real. The present is (currently) real. The future is not yet (currently) real. One does not confuse actual reality with reality without more. A1What something is - concoction, merely possible but never realized reality - is still part, aspect, element of ‘being’.

Transcendental collection. Transcendental (derived from ‘transcendent d. i. transcending, going beyond and beyond.), is **1/** universal **2/** but utterly or absolutely universal. Only ‘being’ is universal in this way, for there is absolutely nothing outside or above that set, not even God, who is transcendent in the sense that he transcends and exceeds the finite and created, but not transcendental in the sense of being. After all, God is also “something” and thus, to that extent, falls within the set of being.

Other names. Utterly everything, the universe is another name of the absolute collection: the common property that makes all that is something, one, is just that ‘something’ being, non-nothing being. The being collection is all-encompassing or transcendental. Absolutely everything belongs to the class of ‘being’ (= something), to the ‘system of being’, absolutely nothing is outside or above it. - All ordinary universals are subordinate to the comprehensive universal.

There is a synchronical aspect to this: space without more is the frame of mind within which the universe, offers place for all possible being; the diachronic aspect: time (without more) is the configuration within which the universe offers place for all moments of time; all events ‘take place’, we say, within being as time, as the time.

Ontology. To on, ens, being or something. Ontology studies being, the universe, space and time, as many aspects of the same thing. It is the core of all philosophy.

Note.- Sometimes people distinguish between "transcendental" and "transcendental", because Kant used the word "transcendental" - in a being specific to him.

(5) ***Individuological (= idiographic) structure:***

The proper structure can be determined as follows: starting point:

1/ not some universal set (= genus, genus), but the absolutely universal or transcendental set of being;

2/ the division (= partition) of that set of being and that is dyadic, i.e. dual (= complement of being).

The proper is the individual (in.dividuum indivisible something; idion = singular thing) in its uniqueness, or singleness, i.e. that by which it differs from all other being.

'Singular' is not individual. Singular is every separate element within a universal or private collection; but individual is every singular, every singular thing insofar as it is situated within 'being'. Precisely because of this it is unrepeatable unique, single without more. E.g. I and the rest (= complement) of being; this stone here and now versus the rest not only of all stones, but of all being. This here (synchronic) and now (diachronic) is the circumscribed description of the individual.

Concreteness. The indication 'hic et nunc' (here and now) points out that the uniqueness is not to be understood in isolation, but together, thus within cohesion. Being individual' does not mean being free of coherence, on the contrary. The totality is the frame of thought within which the unique is situated. That this is a real structure is shown by the fact that the difference with the rest of being (being-complement) is the common characteristic which makes the boundless multitude of data concerning an individual in its concrete coherence identical.

A monograph about e.g. a religion in Zaire stands or falls with the identity of e.g. the tribe it is about: the writer abstracts from all other tribes, unless they have something to do with the only tribe the monograph is about. One could therefore also speak of monographic structure (monos = alone, without all the others).

A biography, for example, has the same point of view: however rich, however varied, the treasure of data about a personality, all data have one and the same common characteristic: to be informative about that one person, with abstraction of all others. Being (and not only one or the other collection) is subjected to this dichotomy (= complementation).

Two variants. From Romanticism (especially German), on the one hand, hermeneutics (Dilthey (1833/l911); before him; Schleiermacher (1768/1834)) which sees the individual in his situation (totality of circumstances, which concern him); on the other hand, dialectics (Hegel (1770/l831), Karl Marx (1218/1883) which sees the unique group within the 'Ganzheit' (= totality), emerged.

W/20

These two philosophical methods are set against the backdrop of modern mathematical natural science, created under Galileo's influence and conceived as a model of culture by Enlightenment rationalism, which sees the universal in a one-sided way.

The discussion between existentialists and structuralists - the one posits the individual as history-making central, the others see it as froth among structures - has something of a tragic irony: for all the emphasis on 'structure', the structuralists apparently see too little that the individual-structure is an irreducible structure (= one common characteristic, namely to belong to the one, only individual; in its difference to all possible other data within its framework, and to its coherence (= concreteness), defines once and for all a collection with its own distributivity).

One sees the same lacuna of non-romantic professional science when one reads e.g. *René Girard, Des chosos cachées depuis la fondation du monde*, (Things hidden since the foundation of the world), Paris,' 1978, - he accuses Plato of seeing this mimesis, imitatio, imitation only model-theoretically and not 'appropriatively' (i.e. the fact that all human beings imitate the others in the desire to possess the same thing and thereby come into conflict among themselves: rivalry, etc.).

But, if one reads *Gilles Deleuz, Différence et répétition*, (Difference and repetition,), Paris, 1972: Répéter, "c'est se comporter, mais par rapport à quelque chose d'unique, ou de singulier, qui n' a pas de semblable ou d'équivalent."(is to behave, but in relation to something unique, or singular, which has no similar or equivalent), (p.7), one notices that imitation will inevitably be not flat repetition but creative (because uniquely individual) rehashing of what others have occurred. Which Girard forgets too much.

F.W.Schelling (1757/1854), made a distinction between 'negative' (i.e. working only with non-individual data) and 'positive' (i.e. also working with individual data) philosophy: the first posits the Was (= general concept), the second the, Dasz (= actual being). The distinction between 'legitimate' (obviously legal or lawful) and 'opportune' (in fact appropriate) points to the same thing: the concrete circumstances can be such that something that is in itself (in abstracto) permitted, is in fact impermissible, because of an idiographic structure i.e., the fact that it is not permitted. Compare with this the pairing 'structural/ conjunctural'.

Conclusion: The individual, taken concretely, has its own distributivity, systematicity time and interval character and is only definable within ontological perspective. In other words, the four other basic structures it 'resumes' (to speak with Deleuze) in its own way,

Structures such as the five described, are models of models: that is why they were also called clarity structures. They regulate (regulatory models) all others.

W/21

Structural and structural.

Structural is all that conforms to structure (representation) and/or is related to it (system). Structural' means man's unconscious working with structures: current structuralism, in the line of Marx (unconscious social structures give rise to ideology), Freud (unconscious mechanisms 'manipulate' our conscious behavior) and de Saussure (unconscious structures govern man's conscious speech), emphasizes man's structural work ethic

Doctrine of thought, then, is a process of consciousness: what we order interpretively, according to structures (combinatorial term), identities (tautological or identitive term), or invariants (variological term), we learn in doctrine of thought to overdo and master more and more consciously. We clarify, to quote Husserl (1859/1938), the founder of intentional phenomenology (which studies 'object-oriented awareness (= attention) or consciousness), the 'horizon' within which our conscious life' (and especially thinking) takes place.

V. ***Implicit clarity structures.***

Departure point.

Inherences, G. Jacoby says, are the basis of all reasoning. Inherences are, he says, partial identities: "Smartness is inherent, we say, in sickness." "The effect, no matter what, is inherent in the cause" ("He who burns himself must sit on the blows"!); "The part is inherent in the whole"; "He who plays with fire risks burning himself", i.e., "the danger, the possibility of burning oneself, is inherent in playing with fire."

Behind those inheritances hide structures (distributive: from the whole (as u understood) to part (as p or s understood)); collective: from whole (as coherence understood) to part (as aspect, part or portion understood), from burning to sitting on the bladders, from cause to effect; kinetic: from all possibilities (= interval) - from playing with fire to (the one possibility of) burning oneself; etc.).

Implication (containment, containment).

Implication is the same as inheritance (= inseparable connection) but in the reverse directional sense: "The cause implies the effect (includes, includes the effect)"; Playing with fire implies the risk of burning oneself, Being sick implies sorrow.

We now introduce as a typical configuration for reasoning and method the following differential

prephrase). postphrase or prephrase → postphrase or Implication prephrase, postphrase); i.e., the preposition implies the postposition.

Reasoning theory or methodology.

The implicative clarity structures illuminate our reasoning and our method, i.e. our approach, approach to a subject of study. Method theory = methodology, i.e., applied reasoning theory.

W/22.

VA. *Syllogism (Syllogism Theory).*

The first and basic structure, the distributive, shows itself. in the strictly syllogistic reasoning or closing speech. It contains two prepositional phrases (the Maior (= M) or rule (R)", the minor (= m) or application (App.) which imply one post-sentence (the conclusio (= C) or result (Res).

The two prepositions are also called premises (= presuppositions) and the postpositions the conclusion, the inference. We also speak of two antecedents (one antecedent + another: what comes first) and one consequent (what follows).

The zamels or elements are judgments propositions, statements, assertions (or whatever one wants to call a judgment now), i.e. wordings in which of something that functions as subject or subject, something that functions as saying, is said (uttered) and this with claim to truth.

Configuration.

Rule ^appl) . Res or M^m -- = C or Imp (Rule^App.) . Res).

There are two transformations (= transfigurations, transformations of the configuration or figure) of this algorithm (i.e., sign complex or configuration that can be interpreted (understood as applicative models):

Appl ^ Res). Rule (= inductive implication.) Res ^ Rule). Appl. (= abductive implication), where the first is called deductive implication.

The sign '^' means 'at the same time', 'and'. In the line of C.S.Peirce, *Deduction, Induction and abduction* (*Hypothesis*), in *Popular Science Monthly*, 1878, we also call the deduction 'analytic derivation' and the in- and abduction together 'reductive' (aka 'synthetic') derivation.

Deductive syllogism.

Categorically formulated model (= assertively formulated)

All beans in this bag are white. ------ = Rule (= regulatory model)
Well, this bean comes from this bag. ------ = Appl. (= applicative model) - Singular.
So (= consequently) this bean is white. ------ = Res
Or: Well, these beans come from this bag ------ = Appl. (private)
So these beans are white. ------ = Res.

Hypothetical (conditional) articulated model:
If (// since) Rule. All the beans from this bag of white, are (= you). And
Appl. S: this bean comes from this bag, P: these beans come from this bag,
then (// then also) Res.: are these beans white (p) is this bean white (s).

Other example: All humans are mortal. Well, Socrates is human. So Socrates is mortal. Or hypothetical-whatever exposes the implication linguistically. If all men are mortal and Socrates is human, then Socrates is mortal. One sees that mentally the categorical or assertoric sentences coincide with the hypothetical, not linguistically.

W/23

One sees that the condition, to conclude deductively valid or correct, is to remain within one and the same (identity, common property), set (as a class, i.e., understood purely distributively) in the three components of the syllogism: distributive structure.

Variance.-

Jan Lukasiewicz (l878/1945), Polish logician, formulates deduction methodologically:

(hypothetical law:) If A, then B.
(Empirical, experimental testing:) Well A,
(Distraction:) So B.

This algorithm (compound symbol; open to applicative models or interpretations) is illustrated (excerpted) as follows:

A = u = all water boils at 100° C;
B = p or s = this water, which boils water at 100°' C.

Consequently, Lukasiewicz's algorithm, interpreted in terms of 'water-boiling-at-l00° C' (= provided with applicative model), reads as follows:

"If all water boils at 100° C, then this and that water boils at 100° C" (If A, then B). Well, all water boils at 100° C. (= Well, A; i.e., the valid law governing boiling). So this and that water boils at 100° C. (= So B).

Parallel: If all people die, then this and that person dies (= if A, then B). Well, in fact, all men die (= Well, A). Consequently, this and that man dies (= So B).

Modal assessment. **-** Modal structure stands or falls with 'N' (= necessary) from there the next configuration (differential) :

N (= necessary) -N (= not necessary) N- (= not necessary)
N (negate) (= not necessary) (= impossible)
(= possible)

Since there are three variants, there are three modalities: necessary, possible, impossible. The deduction, in that it reasons from u (= all) to p (= some) or s (= one) (p or s are inherent in u; u implies p or s) is necessary. It is not so with the two variants representing reduction.

Inductive syllogism.

Algorithm: Appl. ^ Res). Rule. Interpretation (= examples).

Peirce: These beans (respectively, this one bean) come from this bag. Well, these beans are white. So all the beans from this bag are white.

Implicitly stated: If these beans come from this bag and these beans are white, then all beans from this bag are white.

Lukasiewicz: If A, then B. Well, B. So A. - Tp: If all water boils at 100° C, then also this and that water. Well, this and that water boils at 100° C. So all water boils at 100° C.

W/24.

Modal assessment.

The derivation (= implication, inheritance) is non-necessary, possible, because from the distributive part (after all, one takes a stochastic, random, haphazard sample (= p or even s) in a set, and from that part one concludes to the distributive whole (= from the subset or species or singulare (= member) one concludes to the whole or universal set). Ab uno disce omnes: If you know one, you know all. (risky reasoning).

But possibility is not only non-necessary: deduction teaches nothing new (it is tautological: the tauton or saying the same thing); induction does: it is generalization on the basis of sampling. All empirical sciences, insofar as they establish law(maturity), uniformity in the universe, make this inductive reasoning: from the facts they thus arrive at laws. In the sample they test the universal distribution (= law)

Abductive syllogism.

Algorithm: Res ^Rule). Appl. - Exemplification:

Peirce: Categorically: These beans are white. Well, all the beans in this bag are white. So these beans come from this bag.

Hypothetical: If these beans are white and all the beans in this bag are white, then these beans come from this bag.

Variant: If Socrates is human and all humans are mortal, then Socrates is human. (// It is called Socrates and is mortal: What is it?)

Modal assessment. Again, non-necessary derivation; for one does not know with certainty from which collection the sample comes: one is looking precisely for a distributive class! In riddle form, the modal weakness shows up best: "It's white and here's a collection of white things: where does that white something come from?" Answer: "Maybe from that collection of white things". That riddle form had the induction too. But the riddle puts on the way to an explanation (= explanation): if that white comes from that collection of white things, then it is ready why it is white. The why of things answers the abductive hunger of our mind. Science, all thinking has such an abductive aspect.

Vb. Theory of deviation from syllogistic reasoning.

Norm (= rule) is the strict or purely distributive reasoning or syllogism. The deviations are instructive (= instructive).

(1) ***Form deviation***. The enthymeme (enthumèma, says Aristotle, i.e., something purely mental, inwardly present) is a syllogism but with concealed (subdivided, implicit) parts. Thus e.g. "All men are mortal. So Socrates is mortal". Subverted Socrates is human.

(2) ***Validity deviation***. - The deviation here is the implication sign. In a sense, the in- and abduction is already a validity deviation, but a fruitful, heuristic one (heuresis = inventio = invention) - it sets off. The full deviation is paralogism (unconscious reasoning or thinking error) and sophistry (conscious thinking error) omitting or confusing reasoning error.

W/25.

Example: "Where your treasure is, there is your heart. Well, your treasure is in this suitcase. So your heart is in this trunk". 'Treasure' here is evidently ambiguous: to be understood metaphorically at one time, materially at another. Unless in an ironic-humorous situation: a greedy man, with his suitcase with securities and bank bills, has his 'heart' in the suitcase!

"Cum hoc; ergo propter hoc". (= Simultaneously with it, therefore because of it): from simultaneity one may not yet conclude causal coherence (e.g. Johnny was there when there was noise; therefore he was not yet the instigator; - one confuses being together with instigation (see above p. 7: ambiguity!).

(3) ***Non-distributive closing reason.***

The strict syllogistic reasoning is purely distributive. However, there are structural deviations: where the rule (Maior) represents a more than distributive structure.

a/ ***Collective rule.***

Enthymematic example: "Here, in this forest, is a pigeon plume. So pigeons live here somewhere." Subjunctive: The part implies the whole. Well, "a plume is a part of the bird. So it implies the bird."

Appl. : "Well, here lies a plume, etc. A system lies behind this reasoning, namely the dove, consisting of several parts, including feathers.

Enthymematic example: Descartes (1595/1650), father of modern philosophy (based on exact science, genre Galilei), said: "Je pense; donc je suis" (I think; therefore I a). In other words, my thinking implies my actual existence. The conscious human being ('thinking' here stands for all conscious activity, - the very broad sense) is a system: his actual existence and his consciousness have one common characteristic, to belong to the one person. This structure forms the rule (Maior) for the Appl. (Minor). Je pense; donc, je suis'.

But beware: one may not collectively associate all factual existence with thought (consciousness); after all, a stone also factually exists, yet its existence does not imply consciousness (consciousness is not inherent in stone - being!). Only some factual existence (p) implies consciousness.

Enthymatic example: "Today is Thursday; so the day after tomorrow is Saturday". Rule: the structure of the week (Z. M. D. W. D. V. Z. So...), 'a circular (cyclic) programming or order. Appl. "today = Thursday), the day after tomorrow Saturday".

Enthymematic reasoning: "Where there is smoke, there is fire". Rule: the system (syn- and diachronic) of fuel, ignition mechanism, flame, fire, ash, etc. (all elements, - parts and aspects of the one system 'fire'). Appl. : smoke, one of the aspects of fire, implies - collective structure - the whole 'fire'.

Enth. Example: "If 'a son, then 'a father'". Rule : the causal relationship 'father/ son' (with double complication: father implies son; son implies father). Appl. : - 'if one term, then the other'. So much for deductive models.

W/26.

Inductive and abductive models.

C. Berge, Principes de combinatoire, (Principles of combinatorics), Paris, Dunod; 1968, who p. 2, defines the notion of configuration as "the picture (representation) of a set of objects in an abstract and finite set provided with a known structure", nevertheless says, p. 4ss., that one of the possible tasks of the study of configuration or taxeology is: to search for an unknown configuration. That is the task of in- and abductive collective reasoning.

Archaeology (= antiquity), which studies, through remains (fossils), the earth's crust (geological), the plant kingdom (plant biological), the animal kingdom (animal biological), mankind (anthropological, culturological) of the past, is, through fragments (i.e. parts and aspects of systems of the past), in search of wholes (the structure of the earth's crust;- the construction of plant, animal, human body, - paleontological; the way of life, culturological). Also, constantly the archaeologist ab- and induces: this piece of bone is perhaps animal, perhaps human (conjecture = abduction). Once it is localized (situated: taxeological activity!) in e.g. the great ape, the inductive phase follows: are all great apes provided with such a type of bone?

Supersystems/subsystems.

The XVIIIth century archaeology discovers the sequence (= order) 'stone age/ bronze age/ iron age', i.e. a diachronic system of systems (cultural). This super-system 'stone/ bronze/ iron' becomes operational in 1816/1819 thanks to C.J. Thomson (1788/l865) and his museum in Copenhagen: he conceives this scheme as a relative chronology for the finds of N.-W.-Europe. J.Worsaae (1821/1885) elaborated this further.-

Sven Nilsson (1787/1883) discovers (1841) 'another cultural-historical scheme: 'wild state/ pastoral nomadism/sedentary agriculture/civilization' through the study of contemporary primitives. This represents 'a second diachronic super- or encompassing system from sub-systems, patiently, in- and abductively, constructed by research guided by the collective or systemic structure. All reasoning, all method is carried by that characteristic identity throughout all data.

School example: - The teacher is on a trip with the children through a park. Suddenly a child finds a feather: which bird does this feather come from? (abduction). Do all birds of that species have that feather (induction)?

b/ ***Kinetic rule.***

Someone wants to meet someone. He knows that this person goes to work every day, possibly along three roads (i.e. the slack contains an interval with three variants). The first day he positions himself along road 1; the second along road 2, etc. From the bundle of (interval) possibilities he chooses. Why? Because the interval structure presides over him (un)consciously: from the interval of changes he deduces successively his choice.

W/27

Inductive and abductive models.

As for the collective and distributive structure, so for the topological one: one seeks the unknown configuration in-, abductively.

Someone knows that someone goes to work every day, but he doesn't know (exactly) where he works and by what route he reaches his work: here, deducing from the most general interval structure, abductive (where somewhere?) and inductive (always, in all cases) search is made. Here one sees, once again, that modally weak reasoning as de-, ab- and induction are, they nevertheless have heuristic (on the way, putting) value. They are the deduction that seeks 'an interval and its possibilities (= variations); they are variational deductions. All alternatives are governed by the kinetic structure: either a, or b, or a ^ b.

c/ *Ideographic rule.*

School example: the authenticity or genuineness of a text or a painting. - For most ancient and medieval texts, for example, the original (= original) manuscripts have been lost. So here the configuration of 'an individual data is to be found (= heuristic case, similar to the cases cited above). The existing copies are compared (synchronically); its origin; is made up (diachronic coherence: who copied from whom?); the errors and changes (transcribers sometimes deliberately changed 'a word, 'a passus!) in transcribing are recorded. What does one look for through this, all of it (ab- and inductively)? The original, unique text.

By what type of reasoning is this search guided? By the individuologic structure, basis of deduction and of its variants, the ab and induction" .

Another example: one seeks to distinguish the fake paintings from the authentic or real ones. The question is: "Which painting is really his?". That phrase "his" is characteristic of individuality and its concreteness (= consistency of what is "his, to the exclusion of all others).

Justice.- The "mine" ("of me") and the "thine" ("of you") give the same authenticity, but legal.

Marx's critique of 'Entfremdung' ('larceny', aliénation) has the same individuological foundation: the proletarian is not 'himself' ('er ist sich entfremdet', says Marx in Hegel 's language) but now as a member of 'a group': the 'lord' exploits the 'slave', i.e. one class steals what is due to the other class (from what is 'hers'). Individuality also applies to groups (collective individuality).

One sees that authenticity is sometimes known, sometimes to be sought.

Decision.

Asyllogistic reasoning is first of all individuological (collections of which only one element exists), but, fundamentally, also collective and variological, in that it represents more than distribution (= spread of one property over at least one singular

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VC. Pragmatic implication. Typology (types of implication; its uses).

Prephrase*). *Postphrase, - behold still our subject, as in Prephrase A and Prephrase B, but now situated in human situations (psycho-sociological).

(1) *Clarification.* (28/30) Two-three types of clarification:

a/ *Possibility or apriori - condition.*

I. Kant made this famous: he sought the conditions of possibility of the Galilean mathematical physics triumphant in his rationalist age. What does this mean? He situates the propositions of the exact natural science of his time as afterthoughts of implication(s): the a-priori conditions are the prepositions.

Everyday example: we are faced with a fait accompli; we ask ourselves how is such a thing possible? Well, Kant did that with exact natural science: what praesupposita (= presuppositions), premises, give mathematical physics as a result?

a priori (= possibility predicate)). mathem. physics.

"How is mathematical physics conceivable?" Is the same question with a different word, emphasizing the logical side.

b/ *As if behavior.*

Twofold, man behaves in search of inherent

b/1. *The lemma.*

Lemma, sumptio, anticipatio, pure supposition. - Platon introduced this in order to organize his 'ideas' (= models of things and processes, directions) within a what he called 'zoön noëton' (= animal intelligible', a thought-content organism; - we would now' say: 'a system). This operation Plato called 'sun.agogè' (conductio, convoy).

It consisted of two steps:

First step: the lemma: This reasoning reads as follows: "Supposing we know what we do not know, what then (therefrom deduced, induced, or abducted? Paradigm: "Now if Johnny had learned his lesson too little?" (starting from the fact that he does not know his 'lesson'). "What then to do to be sure)?".

Second step: the derivation, already indicated above, "What follows logically from this?", this step Plato called 'analusis' (resolution), dissection, with its deductions.

In short, the lemm.-analytic method; in short, the analytic method.

b/2. *The methodical doubt.*

The lemmatic implication 'VZ (as if known). NZ' is now reversed in its prepositional phrase: 'VZ (as if not -known)). NZ

The later academicians (= Platonici), Arkesilaos (-314/-240; second Academy), Karneades (-214/-129); third Academy)) introduced methodical doubt as a method: "I am certain. But if I doubt. What then? Descartes, in his struggle with skepticism, engaged in such a platonic "doute méthodique" (if I doubt, then I "think" (= am aware); if I (W/29) think, then I am: doubt leads to certainty).

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To sum up: "Supposing" that we know what we, are looking for" / "Supposing that we do not know (= look for) what we know (have already found)". One feels that analysis (lemma) and methodical doubt are two implicative operations that are close to each other: As if behavior).). What then? (= deduction; in-, abduction).

c/ *The pragmati(cisti)sche maxime (maxim).*

C.S. Peirce introduced the so-called working hypothesis. How does he reason? Given assertory sentences (= categorical sentences (propositions, judgments) about data. Transform (= transform) these judgments into conditional (hypothetical) judgments, in which the after sentence speaks of the effects, outgrowths, consequences; of those data, and this in connection with possible human actions (self-actualization, experimental testing) with respect to those data." In 1905, Peirce writes, "If 'a certain prescription for trial is possible, then a well-defined experience will follow.'"

Prescription). Well-defined experience.

Or even more: Given a concept, an assertion or whatever. One only knows the real meaning of that by experimenting with it self activity and seeing "what effects" the concept, the assertion has "in the world in the making" (if we work out the world according to that recipe). In other words, not just a hypothesis, but a working hypothesis. One pretends to know and one acts accordingly (theoretically e.g. in mathematics, when one wants to know 'what a formula is worth'; practically e.g. when one wants to know what a concept is worth' in life).

Note that for Peirce, testing (reviewing) a mathematical formula is as good effective behavior as, say, testing a drug. Effectiveness is both theoretical and practical or technical.-

Note: unlike e.g. his friend H. James, Peirce was intellectualistic and logically as strict as possible. That is precisely why a concept (a model, preferably regulatory, possibly applicative) must be present in the prepositional phrase, as clear and unambiguous as possible.

To summarize: one can call this the effective (= on effects obtained via intervention directed, implication. Peirce called this 'the method of investigation'. And this is done by the 'interpreting community': as many people as possible should carry out this effective examination of thought content by applying it in a self-willed manner. That is pragmaticism. Lemma, but effective, and in community form.

Hypothetico-deductive method. The application of the implication in all its forms, described above, is called the hypothetico-deductive method (hypothetical, because starting from prepositional phrases; deductive, because forming postpositional phrases as inheritances of the prepositional phrases). The most consistent form is the pragmatic (= result-oriented) implication.

W/30

Explanation. **-** Naturam morborum ostendunt curationes (The nature (model) of diseases is exposed by the methods of medicine), - so says an old Latin maxim. It exposes the pragmati(cisti)sche maxim. Actually, one never knows one hundred percent what health someone has: only the symptoms are directly visible and tangible. The disease (its true nature) only shows itself to be 'effective' if the physician, using his diagnosis (= abductive reasoning) as a hypothesis, but then as a working hypothesis, risks deducing the supposed disease from the corresponding remedy: if cure (= effect obtained by self-restrained hypothetical-deductive intervention), then the presupposition follows (i.e. the supposed disease).

(2) ***Exact clarification.***

Implication (hypothetical-deductive) underlies mathematics and logistic reasoning. Hence this piece of foundational research, which exposes mathematical (and logistic) reasoning as lemmatic behavior with distributive intent.

All reasoning is 'akribes', accurate, but mathematical (and logistic) reasoning is exact (= the calculating form of accuracy). So what is computational reasoning?

a/ ***The basis.*** (30/32)

François Viète (1540/1603) (= Franciscus Vieta), lawyer, cryptologist (decipherer of secret writing), introduced the systematic, algebraic spelling.

The point of departure was the number calculation of the middle ages (logistica numerosa). That is already lemmatic (and thus analytical) in its way: given a set with at least one element; the addition (assignment) of one character to each of the numbers of that set. constitutes a number:

Number). Number (or: number ------ = number).

The Arabic numerals are therefore lemmata.

How that? Because they forgo any applicative number to work only with the regulative number. Thus (denotatively speaking) the number 11 represents both eleven cows and eleven books or fists (in the connotation 'eleven' all denotations 'eleven' whatever they are, are summed up; i.e. all possible numbers of 'eleven' (= universal) are assumed to be known (but left in the middle as to the denotata unless their number) in the number 11). So much for mid-century arithmetic, which was number arithmetic.

The algebraic letters are also higher order lemmata.

How so? 1591: *In artem analyticam isagoge* (Introduction to analytics) by Vieta. In it Vieta founds the logistica speciosa (which works with species, letters (= thought-content numbers)): Let us take an applicative model, e.g. the aggregation of two numbers; the general rule is: "a number added to a number gives a new number (notwithstanding the neutral element 0)" (= the sum of two numbers forms a new number); the medieval operations were the numerical application of this general rule: e.g. 3 + 4 = 7, Whether these are three cows and four donkeys does not matter; only their number (their common property counts).

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And yet this Vieta did not suffice: after all, these were always private numbers, with which the middle ages worked and not universal ones. As a result, only private formulas could be formulated. Schematically, this gives the following configuration:

universal vernacular rule universal *non-operational* (mathematical)	letter math (Viète) universal *operational*	number arithmetic ((middle) *private* operational
Seven is the sum of three and four.	a + b = c	3 + 4 = 7

The weak sides of the three systems are shown in italics. 3 + 4 = 7 represents all denoted numbers (i.e., notated in one number); but: a + b = c represents all possible (not just numbers but) numbers. One sees how the distributive structure is present in the second power in letter arithmetic.

Extensions: Before long, Descartes, Fermat, and others applied this letter math to other areas:

(i) ***the theory of functions*** (= analysis) worked with variable quantities; e.g. y = 2*x; this formula (little form) stands for all possible values of x;

(ii) ***analytic geometry*** worked through letter arithmetic with geometric systems; e.g. $r^2 = x^2+y^2$ stands for all possible circles; instead of drawing the (always singular) circle - By rotating the radius around one of its ends and, starting from that drawing, reasoning, one had grasped the common property of all circles.

Logistics: extending Vieta's principle.

In the XIXth century, the logical framework of mathematics (and of its logic) is exposed:

1847: G.Boole (1815/1864); A. de Morgan (1806/1878): logical algebra;

1910/1913: *A.Whitehead* (1861/1947) and *B.Russell* (1871/1961): *Principia mathematica* (the actual logics, i.e., the exact form of logic) expresses itself by letter to formulate logical propositions (rather than by circumlocution).

Note: 'Logistics' in the military sense basically means optimization of military resources (minimum) with a view to military objectives (maximum).

Case in point: "If something is larger than something else, then this other is smaller than the first'" (colloquialism). In artificial letter calculus 4 > 3). 3 < 4 (= private); a > b) . b < a (= universal). One sees the symbolization process in two degrees, along with the clarity increase.

W/32.

A.N. Whitehead, Mathematics, Basis of Exact Thought, Antwerp, 1965) (// *An Introduction to Mathematics*, London, 1961);. writes: "Mathematics began as a science when someone, probably a Greek, first attempted to prove theorems about all things and about some things without specification of certain individual things. These theorems were first posited by the Greeks for geometry and, as a result, geometry was the Greek mathematical science par excellence. After the rise of geometry, it took centuries before algebra was really effectively established." (o.c., 11).

1. Whitehead gives a few examples: "Instead of saying that 2 + 3 = 3 + 2, we generalize in algebra and say. that for all numbers x and y it holds that x + y = y + x. Similarly: instead of saying that 3 > 2, we generalize and say that for all numbers x there exist some numbers y such that y > x " (o.c., 11)

He gives further examples:

i/ for all numbers, 'x + 2 = 2 + x' holds,

ii/ For some numbers x, 'x + 2 = 3' holds true.

iii/ for some numbers, 'x + 2 > 3' holds true.

'Some' is 'an interval, i.e., a bundle of possibilities, alternatives. For case i it is clear: it is deductive (since 'all' (= u) includes 'some' (= p)). But case ii and iii are different: in ii, 'some' is in fact only one number, i.e. 1 (so that p is 's' here in this model); in iii, p is equal to all numbers greater than 1 (therefore there is 'n infinite number of numbers satisfying 'some').

Conclusion: "Thus 'some' can be anything between 'all' and 'only one' including both these borderline cases." (o.c.,12)

Then Whitehead complains that algebra has been too much solution of equations (e.g., y = x + z): the so-called unknown therefore replaces indeterminate variable (i.e., all and some) too much.

In other words : algebra has been too much problem solving and too little study of structures, as a result. The structural conception of mathematics, begun with Vieta, however, came to full breakthrough at the end of XIX th e. (Whitehead's book appeared in 1911). In 1934 *Bourbaki* published, *Eléments de mathématique* (Elements of mathematics).

2. **b/** ***Two applications.***

From this structural viewpoint we now give two elementary examples, the stochastic and the axiomatic.

3. **b/1** ***The stochastic structure.***

Starting point. **-** We start from the dyad 'deterministic/ stochastic'. Determined (predetermined) processes are such that the course at the outset is fixed (once the initial condition, then the further course in its programming): the same causes, the same consequences. Stochastic (random, haphazard) processes however are such that "no initial condition allows for a practical determination of the outcome". (*J.R. McCord/ R.M.Moroney, Introduction to probability theory*) 1967, p.l3.

W/33.

Stochastic syllogism.

Deductive: If all the beans in this bag are 2/3 white and these beans come from this bag, then these beans are 2/3 white.

Reductive:* i/ *Inductive: If these beans (= stab pr.) of this bag are 2/3 white, then all beans from this bag are 2/3 white; (this is the so-called static induction, variant of the universal induction; **ii/ *abductive;*** If these beans are 2/3 white and all beans from this bag are 2/3 white, then these beans come from this bag.

Rule of three. - The scheme is the following:

Logical square:	Rule v. three	Application:
U	100%	220
S	1%	220/100 = 2,2
P	x%	25 . 2,2 = 55
(regulatory logic model)	(regulative mathemat. mod.)	(applicative mathemat. model)
(non-mathematical operational)	(applicative logic mod.)	(mathematical operational)
(universal)	(mathematical operational)	(private)
	(universal)	

One clearly sees here again the distributive structure (= logical square) at work; to speak with Whitehead: even though the rule of three is directed to the unknown x (and thus question solution), this Platonic-Vietian configuration (lemma-analusis as a detour to generalize) shows how structurally sound this rule (which can be 'rule', i.e. limitlessly applicable, for that very reason) actually is.

Conclusion: *C.S. Peirce, The Doctrine of Chance*, in *Popular Science Monthly*, 1878, writes: "The doctrine of probability is simply the science of quantum logic. With respect to any hypothesis, there are two conceivable certainties: the certainty of its truth and the certainty of its falsity. The numbers zero and one are used in this calculation to characterize the greatest and the smallest magnitude of this knowledge, while fractions, which have values in between as one can incorrectly express them, indicate the degrees to which the evidence tends to one or the other". In other words, the interval structure operates here.

b/2 *The axiomatic structure.*

Starting point. - Convert data (e.g., numbers (numerical mathematics), systems as geometric figures (triangles, circles, etc.) (spatial mathematics)) into symbols (symbolization); - then: work with these symbols according to structures (structuralization) then formulate these structures axiomatically (formalization), - behold the phases. A small elementary example of axiomatization. We orient ourselves to *Giuseppe Peano* (1858/l932), *Formulario Mathematica*). The Italian school was the first to implement a more or less complete logi(sti)cal treatment of the mathesis, according to *CI. Lewis, La logique et la méthode mathém.* , in *Revue de Métaph. et de Morale* (*Mouvem. général de la pensée Américc.*) 29:4 (1922) pp. 455/ 474.

W/34.

(a)1 Logistical symbolism.

Logic is logic, but calculating logic (calculus). Thus it calculates with judgments which it designates p, q, r, s, etc. 'Calculating' in Vieta's sense, i.e. performing structure operations. The functors (= conjunctions, modifiers (= modifiers)) with which logistics usually works are the following:

Conjunctor
(log. Product) ^ and p ^q (= simultaneously true) Lukasiewicz: Apq
Disjunctor
(a) ***enclosing*** v and/or p v q (at least one of the Likasiewicz: Dpq
(= inclusive, alternative, (L. vel) two where = p, q, p^q
Divisive disj.) (simultaneously)
(b) ***exclusive*** W or p w q (= only one of the 2 true (L. aut)
dillematic d;) (at the same time)
Implicator). → if, then p). Q (= p is not without
Likasiewicz : Opq
(cosequence, inference, (implies) q true; q is inherent to p,
hypothesis) (p implies q)
Bi-implicator).(, p).(q (= p if and only if q

(equivalence, -→
equivalence). ←
Sometimes still: I inconsistent- p I q (= p and q are not
Incompatible at the same time true)
Further:
Negator (negation, negation) not -p (= not true)
Likasiewicz: Np -p

(a) 2. Set theory symbolism

Given its structural nature, the distributive structure of the logical square also comes into play: Cls (cls, k) = class (= species name); e. = belongs to (belong to: containment (aka the Greek epsilon: E); = (= is equal to)); - = (= is ≠not equal to). Furthermore, the grouping sign: ( ) to separate complicated or complex expressions.

(b)1a ***Primitive concepts (= terms)***

from now on specifically mathematical - No (= number (// S); 0 (= zero number); a+ (= successor of a in the sequence of numbers; so e.g. 1+ (= 2), 2+ (= 3); Further, the operation signs + (inverse: -) for summative operations and x (inverse: ':') for multiplicative operations;

(b)1b ***Relations (= definitions):***

Summative: a e. N0). A 0 = a (If a belongs to the kind of number, then the sum of a and 0 is equal to a); a, b e. N). A+ (b+) = (a+b)+ (If a and b belong to the kind of number, then the successor of a, added to the successor of b, is equal to the successor of (a+b)); (? (2+1) + (3+1) =/ (2+3)+1)

multiplicative: a e. No). A x 0 = 0 (if a belongs to the type of number, then the product of a with 0 is equal to 0);

a, b e. No). Ax (b+l) = (axb) +a (if a and b belong to the type of number; then the product of a with (b+1) is equal to the sum of the product of a with b and a) (note: since b+ = b + 1, one can also replace (b + 1) with (b+))

(b)2 ***Axiomata (= postulates, beginnings, premises, a- prioris):***

(1) No e. cls (number is a generic name, class);

(2) 0 e. No (zero belongs to the type of number);

(3) a e. No). a+ e. No (if a belongs to the kind of number, then also the successor of a);

(4) S e. cls ^ 0 e. S ^ a e S) . a+ e. S). No e. S (if S belongs to the kind of class and zero belongs to S and a belongs to S, then it follows that the successor of a belongs to S, from which follows that the kind of number belongs to S (i.e. every number belongs to S: the so-called mathematical induction, from which follows that every property proper to zero which can be extended from every number a to its successor is also proper to all numbers);

(5) a, b e. No ^a+ = b+). a = b (if a and b belong to the kind of number and the successor of a and that of b are equal, then a equals b)

(6) a e. No). a+ 0 ≠ (if a belongs to the type of number, then the successor of a is not equal to 0).

The natural integers are thus structurally defined. If one also wants to work with negative numbers (or any numbers), one should only introduce the corresponding axiomata (e.g. (-a) e . No (the negate of a belongs to the type of number, etc.).

Immediately, a specific mathematical structure was introduced, namely the algebraic structure which includes the operations +, -, x, : (summative and multiplicative, with their inversion), as well as neutral elements (e.g. 1 (ax1 = a) or 0 (1 + 0 = 1)).

Instead of looking for unknowns (as quantities to be found in the context of a problem via those operations), structural mathematics sees these operations with letters as illustrations (applicative models, “interpretations”) of structures.

Note - Peano uses the symbol ‘).’ to denote ‘always implies’, which we will not elaborate on here.

System character of axiomata. The standards of axiomata are:

a/ ***internal:*** the axiomata should be mutually independent (irreducible) and yet interrelated (functional); they should be mutually consistent (contradiction-free) and complete (able to serve as evidence for all properties that should be proved);

b/ ***external:*** together they are ‘strong’ when the number of axiomata is large (closed), but weak when that number is small (openness). In other words, the axiomatic system illustrates the notion of cohesion (collective structure).

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Concludes, "Logic is (...) to be regarded as the doctrine of the description of all possible structures; 'set', 'image' and other standard concepts are presupposed in every description and therefore belong to logic. However, the more abstract, i.e., universal, mathematics becomes in its modern structural approach (...), the closer it becomes to logic. Mathematics must therefore be seen as a bridging science between the logic that has become universal - 'which no longer says anything about anything' - and the professional sciences." (*Doede Nauta, Logic and Model*, Bussum, 1970, p. 46)

We see it thus: on the one hand, classical (= vernacular) logic but transformed into a structural study of the most general kind (and, among other things, and above all not averse to ontology and individuology (idiography), - something which is totally lacking in the logics books); on the other hand, the empirical professional sciences and the components of philosophy (which investigates "die Sachen selbst" (the things themselves), (Husserl), which is "positiv" (Schelling)); in between (interval!), on the one hand, logistics as arithmetic, if need be formalized logic, and, on the other, mathematics: logic (logistics; mathematics) empirical approaches (sciences),

(3) ***Critical clarification.***

Critical logic criticizes fallacies (paralogism, sophistry (p. 24 supra)). It does so twofold: **a/** logically; **b/** logistically. Of these, an applicative model.

Epikoeros (Lt.: Epicurus) (-341/-270), philosopher of enjoyment, for whom everything was mobile (// Herakleitos' mobilism) and who took enjoyment as an ethical task par excellence) was an atheist. The primal monotheism, the later monotheism, had to suffer hellenico modo (in Greek), i.e. logically. Behold his syllogism (complicated type).

***Rule*. 1** If God exists, then He is good and all-powerful. - Either, if God can prevent evil but will not, then He is not good; or, if God WILL prevent evil but cannot, then He is not powerful.

***Rule*. 2.** Evil can exist only if He can prevent evil but will not, or if He wills to prevent evil but cannot.

Appl. : Well, bet evil exists.

Res. So does not exist.

Logical vetting:

We rewrite the sentences. God exists = p; God is good =q1. God is omnipotent = q2; this gives:

p). q1 ^ q2..- God can prevent evil = r1;

God wants to prevent evil = r, $_2$

This gives r1 ^r2). q1 w r $_2$^ -r1;

Evil exists = s. This gives: s) . (r1 ^ r2 w r1 ^ r2

The integer expression: I (p). q1 ^ q2) ^ (r1 ^ r2). -q1 ^ w r2 ^ -r1). -q2) ^ (s). (r1 ^ -r2 w r2 ^ -r1) I ^ s). -p.

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This is the algorithm (which can also have other applicative models if necessary) that focuses the joint signs (and the reasoning links).

Logical clarification.

This is somewhat different from the logistic one: as G.Jacoby says, it targets thought content (not just writing characters as algorithms that are multi-interpretable (ambiguous)).

Argumentum ad hominem. Starting from the text itself of the atheist. Evil exists. Well, like everything else, evil has a sufficient reason or ground (explanation, e.g., assignment of responsibility) either within or outside of itself (either in the universe or outside of it). Well, God does not exist. Thus He cannot possibly function as a sufficient reason or ground of evil, - which, in the atheistic hypothesis, can only find its reason in the God-free Universe. Which is precisely what the God-believer claims!

Uncertainty Criticism See pages 6/8 supra. The godly dichotomy; (complementation) of 'being' in God and creation (= by God, from Himself set, independent of Him (= independent, autonomous) reality as He Himself subjected to the structure of Being) is here replaced by undividedness (= God-free autonomy). What is posited (presupposed) as 'autonomy' is taken to be autonomy contrary to God (and createdness). Which would have to be proven right.

Like the atheist, the God-believer attributes evil to everything but God, but for a different reason: the atheist, because evil cannot coexist, within the all-encompassing system of being, with God; the religious, because the created possesses its own God-willed autonomy (yes, in conscious beings, freedom) which, alone, is the reason or ground of evil. God does not want to prevent evil insofar as He respects the creature's independence (and therefore the possibility of evil). God cannot prevent evil insofar as He respects that same independence But to conclude from this His non-goodness or His non-alienation, is invalid. Epikoeros unwittingly assumes an authoritarian God who does not tolerate independence and empowerment! Indeed, the simplistically conceived goodness and omnipotence of God is not compatible with evil; not, however, the nuanced (and real) one. This :is the core problem of the so-called theodicy (part of the doctrine of God that studies the relation 'God) evil'). So how does God respond to evil? He responds to it through the inner punishment or immanent sanction (the 'being' outside of Him is structured in such a way that the creature punishes itself, if it deviates (cybernetic structure).

Concealment here is twofold:

(i) Epikoeros does not see (omit) the healthy independence of the creature;

(ii) Epikoeros confuses God's responsibility (= share) with the creaturely share in evil (shift); indeed, he turns things upside down: what is not of God, he attributes to God W/ 38 (reversal). Cf. p 27 supra.

General decision:

(1) "Logic is the General Science of Order, the theory of the Forms of any Orderly Realm of Objects, real or ideal." Thus *Josiah Royce, The Principles of Logic*, 1912, (1961, 11) Logic is the general science of order, the theory of the forms (configurations), peculiar to whatever orderly realm of objects, even existing in itself or merely thought. The theory of reasoning and the theory of methods are but inferences from it (= implicit order). Royce (1855/l916) was a Platonist, influenced by Peirce.

(2) Martin Heidegger (l889/1976), the existentialist ontologist, says that the whole of traditional philosophy, from the Greeks onwards, especially from Plato onwards, is: 'onto.theo.logik' (onto.theo.logic). We can now begin to understand this. Ontology or theory of being is elaboration of the ontological structure, one of the basic structures of logic; it is applied logic, (it collects continuously).

But she is confronted with the unique (= only), not only in the purely individuological (idiographic) sense but also in the following sense: note that 'everything' (the universal, certainly the transcendental) is there only once; 'some' can be there several times; 'all' only once; p is always once-only.

This means that e.g. the distributive, the collective, the kinetic, a fortiori the ontological structure is strictly one-dimensional. This implies that idiography, in that well-defined sense, has the last word.

"If someone was able to dissolve (analusai) all genera (= universal collections, genea) into one and the same principle (archè, principium) and to reconstitute and merge them (suthcinai kai sun.Arthmèsasthai), then that man seems to me the most wise and as one who has all truth as a share and as one who takes a stand from where he can know God and all being, how namely he has put them together according to opposite pairs and arrangements (en tai sustoichiai kai taxei)". Thus Archutas (-400/-365), the Pythagorean.

Logic is share in God's ordering activity on the basis of similarity and difference and according to the economy principle, in which "all" (elements) are targeted at once, taking into account that "everything" is there only once and that the collection represents that uniqueness which includes all singularities.

The meeting point where all possible collection(s) come together is, for Archutas, divine. Onto.theo.logic. Thus, there is only one, God. All collection(s) is (are) part (methexis, participatio, says Plato) of God's position in the universe. That was always philosophy. It still is. Perhaps it was what Whitehead meant to say, when he said that all (Western) philosophy was just a series of footnotes on Plato (who 'calculatedly tried to articulate that in his dialectical theory of ideas, but continued a Pythagorean wisdom in it). In other words, God has a unique connotative position relative to all denotata, in their multiplicity.

A. T'Jampens (16.12.1978)

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Bibliographic note.

In addition to the works cited in the text, reference may still be made, amidst a mass of books, to:

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