10.15. Introduction to cognitivism
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Philosophy course Elements of ontology

(Note: All pages in blue already occur in the course 10.13 or 10.14. The new pages are shown in **black**. These are **pages** 7, 8, 12, 13, 14, 35, 39, 48, 49, 50, 51, 52, 53, 54, 61, 62, 63, and 64. The fact that these are new pages is indicated at the top of each page).

Contents

The overview alone clearly shows how complicated cognitivism is and how it is complicated! Nevertheless, there is a widespread need to gain some solid insight into this very topical phenomenon.

The intent was not to provide specialist insight. That is an enormous task even for insiders. Nor was the will there to provide a superficial overview that caricatures what it sets out to describe.

Sound information: that was the goal. That alone is quite an achievement and requires years of study. All the more so since our intention was also to express some distance, indeed some criticism, where cognitivism crosses boundaries.

One cannot help feeling that enthusiasm - one of the expressions of the "spirit" so central to cognitivism - sometimes leads to outlandish expectations and claims. For example, concerning the 'power' of formalized systems or the 'power' of the brain over human life. Or the "power" of machines, even if they are thinking machines that mean a lot in our culture. Exaggerations are dying with time anyway. Whether the reader starts and continues with enthusiasm will probably be decisive. For it is not easy, although the text is designed for people with a culture of the mind.

Yes, it should normally prove readable and understandable provided some effort is made.

E.O.　　L.　　02.
The concept of cognition.

J.- Fr. Dortier, Les sciences humaines, Auxerre, 1998, 207, says that the "cognitive sciences" make up a "disparate nebula spot."

Specialized sciences (psychology, theory of artificial intelligence, brain science, linguistics, "philosophy of mind", not to mention genetics) with their sub-sciences compete with each other to present their "models".

The axioms also raise fundamental questions: brain scientists and computationalists seem to reduce "mind" and "thinking" to the subhuman level.
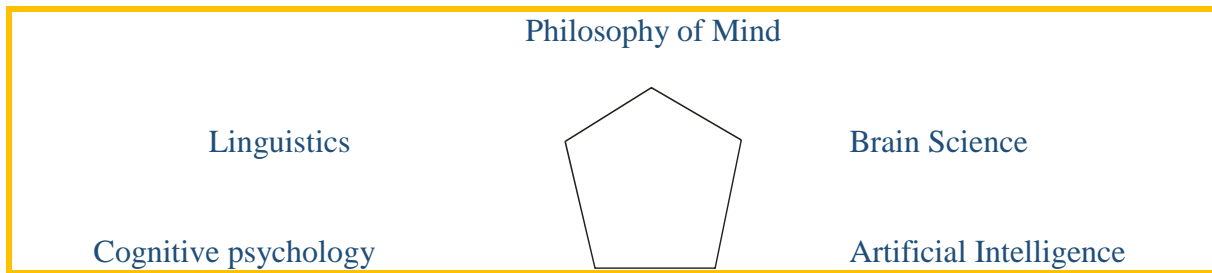
Hence the difficulty in defining the concept of cognition in a clear manner.-- Nevertheless, an attempt.

J. van Meel, Cognitive development in: *H. Duijker et al, Codex psychologicus*, Amsterdam/Brussels, 1981, 315/328, claims that the object, the 'phenomenon', called 'cognition', amounts to "the higher mental processes" in the human psyche. This boils down to: the way in which human beings (however defined) take in information, process it, code it (record it in symbols), 'remember it' (memory that preserves it and makes it available for use again if desired).

If "man" is defined as a type of (self-)active system (which is systems theory definition), within which many relatively independent subsystems (sensory perception, thinking ability, language ability, memory, will etc.) are situated, then man immediately exhibits a multitude of objects - phenomena, better: partial phenomena - for knowledgable scientists. Add to this social cognition: man develops information processing jointly, with fellow human beings.

H. Benesch, Atlas de la psychologie, Libr. Gén. Franc., 1995, defines pretty much in the same sense (pointing out that unconscious and subconscious knowing processes, metacognition and psychologically disturbed intelligence also belong to the phenomenon of 'cognition'),-- distinguishes introspective methods (from the Würzburgers onwards) and extrospective methods.

The latter include some' seven sub-methods: brain waves, skin potential, muscle responses (micro vibrations), heart responses (blood pressure), respiratory responses (frequency/volume), 'lie detector' (finger skin responses), electroencephalogram, can reveal aspects of 'cognition'.

E.O.   L.   03.
Developmental progress of the cognitive 'sciences: (48/84)

Philosophy of Mind

Linguistics   Brain Science

Cognitive psychology   Artificial Intelligence

Bibl. sample: *J. Fr. Dortier, Les sciences humaines*, Auxerre, 1998, 206;
Above, the pentagon of cognitive subjects (four sciences and one philosophy.

1. *1945/1955*.
Main issue: automatic machines and brains.
a. The computer and immediately computer science got off the ground with J. von. Neumann and A. Turing.
b. Cybernetics (steering science) is founded by Norb. Wiener.
c. Neurophysiology is developed by W. Mc Cullough.

Note.-- The Macy conferences (1946/1953) in New York bring up systems theory and cybernetics, automata theory and brain science: J. von Neumann, W. McCullough, G.Bateson (anthropologist) are there.

2. *1956/1979*.
New cognitive insights.
a. A.I. (artificial intelligence) is brought up at a first seminar at Dortmouth (USA) by its four founders (H.A. Simon, A.Newell, J.McCarthy, M.Minsky). Simon and Newell recite their first program for A.I. there.
b. Linguistics in its generative-transformational form is world-renowned (in a first version) by N. Chomsky in 1957.
c. Cognitive psychology is founded by G.Miller and J.Bruner, psychology profs at Harvard Univ. In 1560 they founded the Harvard Center of Cognitive Studies.

3. *1980+.*
The Society for Cognitive Science is founded with its journal Cognitive Science. From the Anglo-Saxon countries, cognitivism or cognition spreads worldwide. Research centers, laboratories, education, journals!

Note.-- Dortier does not mention the philosophy of mind.-- Reference should be made to *P.Engel, Introduction à la philosophie de l' esprit*, Paris, 1994. Men like Davidson, Fodor, Dennett and Dretske are at the forefront here. 'Mind' here stands for mental operations and the human capacity for them.... The term has nothing unless indirectly something to do with what we in Europe call immaterial being,--not even with what we have called humanities since W. Dilthey (unless in a radically redesigned sense).

E.O.   L.   04.
The concept of cognitive science ("cognitivism").
Bibl. sample: J.Fr. Dortier, Les sciences humaines, Auxerre, 1998, 197/ 230.-This is a brief overview.

1. *Informatics.*
Computer science sees in "the higher mental processes" an application of "artificial intelligence" (A.I.). It translates them into an algorithm (series of steps) typical of the computer(computationism).

H.A. Simon (b. 1916) constructed a general problem solver (G.P.S.) in 1956, an ordinator that could handle thinking operations (proof of mathematical theorem, game of chess and so on) in addition to arithmetic.

2. *Psychology.*
Psychology reacts against the prevailing (neo-) behaviorism. From 1950 G. Miller and J. Bruner (profs psychology Harvard Univ.) start cognitive psychology which discovers thinking as grasping the given and the asked ("problem solving") and wants to fathom the "black box" of the inner life among others by questioning pp. (images, concepts, soul states, life attitudes, stereotyped behavior, symbols,-- logical connections).

3. *Linguistics*.
Man encodes his mental operations in language, including in logistic language.
N.Chomsky, Syntactic Structures (1957), with its generative language description and transformational analysis, opens the way out of behaviorist linguistics. He sought in the depths of all factual languages the structures that govern them all. But his formalism encountered paradoxes (meaningless language phenomena).-- Add as a second thrust : the method of machine translation.

4. *Brain Sciences*
"From the brain to the mind" (so it sounded). Biology with neuroanatomy, neurophysiology, neuroendocrinology neuropsychology makes its appearance. Especially brain sciences (neurons, neuron networks, brain centers and so on) come to the fore.

Not to mention genetics that tries to get a grip on man's higher operations with his genes.

5. *Philosophy of Mind*.
Analytic philosophy shifts from its linguistic concerns to:
a. the connection "language/mind (thinking)" and
b. the value of artificial intelligence.
She exhibits computationism (H. Simon) and connectionism (W.McCullough (1896/ 1969), neurobiologist: neuron network-works).

Symbolic logic.

The logic applied -- among others in most ordinators -- relies on symbols that represent all the data, data, such as images, numbers, words together with the reasoning rules.-- x, y, --E, >, =, --> etc.. (*J-Fr. Dortier, Les sciences humaines*, Auxerre, 1998, 227).

Platonism.

In short: in the Platonic tradition since antiquity, a symbol is called "lemma" (also: prolèpsis), literally: antecedent. And the employment of symbols is "the lemmatic-analytic method". We explain a little on the basis of *O. Willmann, Geschichte des Idealismus*, III (*Der Idealismus der Neuzeit*), Braunschweig, 1907-2 48ff..

a. *Platon.--* Diogenes Laërtios III: 24 says: "Platon was the first to give the method of investigation by 'analusis' (*note:* reductive reasoning) to Leodamas the Thasian."

The 'strategy' consisted of introducing the GV (requested), as if it were already given, (and thus known), and examining it on its terms (relations). This second part is called 'analusis', analysis.

The characteristic is the prefix of the solution (as if the GV was already GG). So the full name should be: "lemmatic-analytic method". For the analysis starts only after the lemma,--as the object of the analysis: namely, the analysis of the complex of relations in which it is contained.

b. *Francois Viète* (Vieta (1540/1603)).
Viète knew the lemmatic-analytic method. He applied it and created letter arithmetic.

b.1. *Logistica numerosa*.-- The numerical calculus of the middle ages knew the unknown (GV) and introduced it as 'rest (the matter under consideration and designated it symbolically by 'r' -- OPM.-- Later Descartes will make it 'x'.

b.2. *Logistica speciosa*.-- *Viète* (*In analyticam artem isagoge*) introduced the following scheme:

idea (species)	2 + 3	a + b
universal non-operative	private operative	universal operative

In other words: by starting from the platonic idea (Lat.: species) and 'translating' (making it editable) the equations with unknowns (as lemmas) into letters (symbols), Viète opened the way to algebraic analysis, analytic geometry and differential calculus and so on.

E.O.   M.   06.

Formalized logic.

One the constituents of cognitivism is called "formal logic. 'Formal' in cognitivist parlance means 'formalized; i.e. elaborated on the model of e.g. arithmetic which we all can do.

I.M. Bochenski, himself a "formal logician," says; "Formalism consists essentially in an extension of a method already known for centuries, namely arithmetic." (*I.M. Bochenski, Philosophical methods in modern science*, Utr./ Antw., 1961, 5.

As an aside, not surprisingly, the computer that is formalized "thinking" is also called a "calculator.

Linguistic.

Formalism strips all language - computational language for example - of all semantic content in order to work with empty syntactic 'shells' (symbols), i.e. to 'calculate'. What a or b or x or y can mean, semantically speaking, is 'eingeklammert' (put between brackets).

Bochenski says, by "blackened patches of paper": he means the 'hooks' (connecting characters such as e.g. "---> " (if, then)) and the 'eyes' (connected characters or symbols such as e.g. 'a'). This blackened paper, however, is 'processed' logically, i.e. according to syntactic rules to be drawn up.

Final sum.-- To use language as syntactically as possible.

Axiomatic-deductive.

Such a language is also provided with basic signs and basic connections : the axioms. These axioms govern the further elaboration of the whole "logistic system". One point: that system must be free from 'paradoxes' (= contradictions) to its extreme consequences.

Note -- We refer to e.g.:
-- *E. Agazzi, Modern Logic* (*A Survey*), Dordrecht, 1981 (historical, philosophical, mathematical aspects of modern logics and its applications; considered a standard work).
-- *W.de Pater/ R.Vergauwen, Logic* (*Formal and Informal*), Leuven/ Assen, 1992 (three sections: traditional logic; symbolic logic (in passing: another name for 'formalized' logic); informal logic).

Note -- The Association for Symbolic Logic is fighting for a realignment in the pedagogical field: instead of "descending" from formalized logic to ordinary logic, this association proposes starting with informal (ordinary) logic and only then moving on to formalized logic.

E.O.   M   06.1
(*Note: This is a new page*)
Rationalist reason versus holistic reason.
'Reason' we define as the ability:

a. grasp phenomena (data, directly knowable "things") (observation, sensation, experience) and

b. account for statements (reasons or grounds) logically. In short: phenomenology and logic as ability.

Sacred and psychic data are twofold.
a. Some phenomena are unmistakable as phenomena or directly experienced data. Nl. the physical or physical.

b Others are controversial as a phenomenon. Let us address those.

Contested phenomena.
Bibl. sample: *Irving M. Copi, Introduction to Logic*, New York/ London, 1972-4.

Copi is prof Univ. of Hawaii.
O.c., 76/ 77 (*Argumentum ad ignorantiam*) we summarize and expand.

Appl. mod.
If no one proves that spirits do not exist, then they exist.

Reg. mod.
1. If a proposition is not proven to be false, then it is true.
2. If a proposition is not proven to be true, then it is false.

Copi gives as examples "psychic" (paranormal) phenomena like telepathy. One can safely add, in his mind, sacred phenomena like God, deities, fluids.

Copi literally: "It is surprising how many among the most enlightened (*op.:* rationalistic) people are inclined to this invalid reasoning. For example, many science professionals reject immaterial and telepathic phenomena on the sole grounds that their truth is not a foregone conclusion" (o.c., 77).

"Nemo malus nisi probetur".
"If no conclusive evidence of guilt is given, then a person is legally considered innocent."

Undecidability.
That God exists has never been refuted such that all men are (universally) convinced of that refutation. Such a type of deconstruction is at best privately accepted.-- Conversely, that God exists is never proven such that all men are convinced of that proof. Such a type of proof is at best privately accepted. Aristotle calls such reasoning "dialectical. Zenon of Elea, long before him, said, "Thou, adversary, nor I, proponent, prove universally acceptable what thou dost assert." L.Wittgenstein: "Worüber man nicht reden kann darüber soll man schweigen" (What you can't talk about you should keep quiet abou), 'reden' as "universally acceptable speech".

E.O.   M   06.2

As a phenomenon undeniable phenomena.

Different is the situation with as a phenomenon unmistakable data.

Bibl. sample: *H. Thurston, S.J., Physical Phenomena of Mysticism*, London,-- in transl.: *Die körperlichen Begleiterscheinungen der Mystik*, (The physical accompaniments of mysticism), Luzern, 1956.

Physicalism.

That is the axiom that only physical phenomena, expressible through mathematics, are really "phenomena. Modern rationalism, if it wishes to reject sacred and paranormal phenomena, invariably puts some physicalism first and thus consciously suppresses or unconsciously displaces what does not fit within the axioms of physics.

Physically determinable as a phenomenon but paranormal.

Thurston, accepted as credible even by The Times at the time, demonstrates the following.
1. Levitation (removal of gravity).
2. Stigma.
3. Bridal ring (red ring around ring finger).
4. Telekinesis (material objects changing place of their own accord: the host e.g.).
5. Light phenomena (shining face e.g.; think of Jesus' transformation and the flames at Pentecost).
6. Human salamandering (glowing objects and fire do not injure).
7. Gestalt changes (body extensions e.g.).
8. Love fire (body temperature rise: at Padre Pio often no longer measurable by the mercury of the thermometer).
9. Salvation odor (a pleasant odor emanates from someone).
10. Foodless life.
11. Bread multiplication.
12. Eyesight (blind and yet "seeing").

Immortality.

Corpses give off fragrant odors, do not exhibit death stiffening, sweat blood (haimatodrosia), high body temperature, peculiar movements of body parts.

Physically interpreted, these phenomena are amenable to universal determinations. 'Scientists' do not want to lose themselves in "useless research" (H. Roelandts). Good for them. But then, in fairness, they should also leave such unexamined phenomena unassessed. And not project their axioms into such unmistakable phenomena.

Rationalist reason must here, in fairness, leave room for other axioms,--the axioms of holistic reason which does not limit itself to the physical and exceeds "critical" reduction with reasons which, though not universally acceptable, are not nothing either.

E.O.   M.   07.

Explanations of formalized logic.

I.M. Bochenski, History of contemporary European philosophy, Desclée de Brouwer, 1952, 270, writes:

"In fact, the founders of symbolic logic are not only not positivists but, on the contrary, platonists (G. Frege (1848/1925), A.N. Whitehead (1861/1947), B. *Russell* (1872/ 1970; at least when he wrote *Principia mathematica* (1910/1913) with *Whitehead*), J. Lukasiewicz (1878/1955), Abraham Fränkel (1891/ 1965, H. Scholz (1884/1955; founder as theologian of a Center for logical studies) and others). Today it has followers in all schools". This should give pause for thought to those who claim that Platonism is no longer viable!

Three waves.

I.M. Bochenski (1902/1995), *Formale Logik* (1962-2)) claimed that the history of 'logic' (which he understood first of all as formalized logic) counts three 'waves':

1.-- Ancient logic (fourth/third century BC);

2.-- Middle medieval logic (twelfth / thirteenth century);

3.-- The 'modern' formalized logic (since + 1850).

In between these periods - Bochenski argues - there are long periods of "neglect," indeed of great ignorance of "logic. Thus, he says of the modern period, "The modern era since Descartes is so terribly ignorant that any modern philosopher - Leibniz (1646/1716) (who knew scholasticism well) excepted - would have failed in his first-year 'logic' exam."

Note.-- This typically formalistic use of language makes the self-confidence of some logicians. briefly felt. They speak as if many a thinker, who indeed knows no formalized logic, were not capable of rigorous action precisely because of it. Which remains to be proven.

D. Nauta, Logic and Model, Bussum, 1970, 22v., gives an overview of logistics which he lets begin with *G. Boole, The mathematical Analysis of Logic* (Boole algebra), G. Frege (Begriffschrift (1879) and *G. Peano* (1895/1908: *Formulaire de mathématiques, a formalization of all mathematics*).

The metalogy lets Nauta deploy with *L. Löwenheim* (1915: *Ueber Möglichkeiten im Relativkalkül*), -- the cognitivist applications (computer science, neurology, linguistics) he lets start around 1950.

E.O.   M.   08.
Traditional, symbolic and informal logics' s .

Let us consider for a moment the classification of W. *de Pater/ R. Vergauwen, Logic* (*Formal and Informal*), Leuven/ Assen, 1992.

1.-- Traditional logic.

This section includes: validity problems, interpretation problems ("reasonable" interpretations), definition of fallacies, and syllogistics.

Central to this is the abstraction process regarding human reasoning: logic departs from the phenomenon, the fact that human beings (= all human beings, insofar as they are gifted with reason in their realization) reason in order to extract 'abstract' - one now likes to say 'formal' - rules from it.

Note.-- Hegel and his followers placed emphasis on that abstraction process in connection with the concern to attach to the concrete -- singular or concrete -- private which they defined as the object of reasoning,-- seen from "the general."

2.-- Symbolic logic.

The value of formalizing comes up.

Note.-- What in Hegelian perspective is "implemented abstraction",-- even further removed from the concrete phenomenon seen from the general.

Proposition logic, predicate logic and class logic are set forth. In which, of course, the classical syllogism returns in a formalized way.

Note.-- I.M. Bochenski, History of Contemporary European Philosophy, DDB, 1952, divides somewhat differently: **a.** fundamental concepts; **b.1.** logic of propositions (theorems), **b.2.** logic of predicates and of groups; **b.3.** logic of relations.

Note.-- Apparently the classification depends on the accents one places in front.

3.-- Informal logic.

The Topika, by Aristotle, is taken as a guide here. 'Informal' logic is referred to as "philosophy of ordinary language" and as "argumentation theory. This section ends with the theory of definitions.

Characteristic here is not, "From premises which (GG.) deduce which conclusions (GV)," but rather, "Given conclusions (GG) presuppose which premises (GV). One sees the shift, in Platon's wake; what Platon called "sunthesis" (deduction) to what he called "analusis" (reduction).

As an aside, this proves that Aristotle is wrongly identified with mere deductive theory. Which, however, happens several times. The impression is that theorists had pedagogical concerns.

E.O.   M.   09.

Logistics.

Bibl. sample: *Phil. Thiry, Notions de logique*, Bruxelles, 1998-3.-- 'Logic' is a logic of objects and events insofar as they are expressed in valid (or invalid) reasonings (inférences), which are preferably expressed mathematically-symbolically, i.e. formalized.-- Classical logic (binary: true/false) comprises two parts.

1. *Proposition logic*.

Logic of non - analyzed sentences. Interpropositional logic.-- The smallest constituent is the sentence that expresses an event or a 'fact'. Thus: "The flower is red", "Angela goes up the mountain". -- From such (minimal, called 'atomic') sentences, 'molecular' propositions are combined.

Note.-- She is the re-establishment of the logic of compound judgments of ancient stoics (nominalist).

2. *Predicate logic.*

Logic of analyzed sentences. Intrapropositional logic.-- The smallest constituent is one term within the proposition: 'bean', 'bag'. It is about objects.

As an aside, the proposition expresses between objects or collections of objects a relation.

The object is defined by locating it within a class of objects. Thus: 'beans'; 'bags'. These classes then situate the logic between classes.

Result: classification logic.

2.1. *Old predicate logic.*

From Aristotle over S. Thomas Aquinas to Leibniz.-- This is called "natural logic" because it is based on the vernacular. Was elaborated in a remarkable way by Aristotle in his Organon.

2.2. *Modern predicate logic*

Quant(tifica)tower logic.-- It reestablishes the Aristotelian predicate logic, elaborates it further by expressing it symbolically - mathematically. Which increases the accuracy of it.

3. *Non-classical logics.*

These are not binary (true or false).

Thus: the modal logic (necessary/not necessary/not necessary).

Thus: the multi-valued logic (besides true/false also 'neutral;

Like in the sentence "Anneke is going on a skiing vacation tomorrow" (one does not yet know if it will ever be 'true')).

Thus: sagging logics (Heyting e.g.)

Thus: the chronological logics ("What once was, now is, ever will be").

Thus: the normative logics (mandatory/permitted/prohibited).

E.O.   L.   10.
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Systems that run into inconsistencies.
Let's start with a simple example.
The current spelling of words like 'text' and 'context(ual)', shows itself e.g. in "dissecting a text contextually" That could be the work of "a critical critic"! Words like the Latin-derived 'capital' (capitalis) and 'culture' (culture) seem surprising to those who know Latin.
The question arises : "From what (formal, yes, formalized) rules is that spelling derived?"

But do we read *G. Bolland, Hrsg., G.A. Gabel's Kritik des Bewusstseins*, (*Eine Vorschule zu Hegel's Wissenschaft der Logik*; (G.A. Gabel's Critique of Consciousness, (A Preschool to Hegel's Science of Logic), Leiden, 1901, 113 (*Anmerkung*).
Theme is "perceptive consciousness" in Hegelian definition.

Perceptive consciousness is the merging of
a. sensory certainties (in the context of experiences) and
b. general provisions of the 'mind' (*note:* the human mind insofar as it is at home in separated ('abstract') data and their concepts).

Theorem
That perceiving consciousness runs into contradiction (*note:* in logistic language: paradox (semantic nonsense)) and repeated jamming.
Reason: it isolates its extreme notions from each other.
This is how the ordinary viewpoint of most sciences, especially the empirical ones, fared, by the way. This is also the fate of ordinary consciousness and of the naturally given mind.

Note.-- That seems to refer to the mean (and common) sense.

The so-called common sense.
a. It is true that it would be a calamity not to have a natural fact or common sense which - it is believed - strikes the right chord in every singular case.

Nl. : it proves capable of making a truthful judgement which raises what it is about (*note:* expressed in the subject which is thought including a saying), to the sphere of "the general" (*note:* which with Hegel is to be understood both distributively (general) and collectively).

b. Yet it is precisely that same nature-given mind that depends on the merely singular case such that it repeatedly gets hold of only an 'abstract' (*note:* the data and their concepts separated from each other thought), generality.

That abstraction still has somewhere a one-sidedness as for set-up.

E.O.   L.   11.
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Immediately the nature-given mind has as its fate to fall victim to its opposites (literally: opposite determinations), i.e. to its empty and one-sided abstractions.

Note.-- With Hegel, Bolland wants to say that if one "builds" systems, one must reckon with undesirable consequences (their finitude), (contradictions) from the start and not postpone it until the facts expose them. One thinks including them.

Man in his daily life and actions, and in the basic representations he forms in the process, has been given up to that fate.

Legislation.
As also to no lesser degree often the "general" (rule) legislation in the states and this to the extent that it wants to capture and prevent in detail.

Other' cases (exceptions) as well as complications then occur which expose the one-sidedness of the 'abstractions', (*note:* always in the strictly Hegelian sense of "the data and their concepts separated from one another thinking") and the contradiction so that consistently going on becomes nonsense and it becomes clear that "the intellectual" (all data separated from one another thinking mind) testifies to a lack of 'reason' (*note:* 'Vernunft').

Note.-- "Reason" in the Hegelian sense thinks all data and their concepts including each other and is thus a speculative higher degree of human mind.

An extreme consequence.
Normally, for Hegel (and in his wake Bolland), this implies that one must think even 'reason' as in fact incapable of 'providing' from case to case the general in each case separately (meaning all applications). This, in fact, would be deduction that is radically summative.

In any case: the common sense and also many empirical scientists do not cherish the pretence of thinking from axiomata in such a way that contradictory (semantic nonsense) inferences never arise from them. Our current formalized systems do cherish that pretense.

In other words: put in chomskyan terms.
Our 'competence', i.e. our mind as far as it is constructed on totalities (summerings), has to reckon with inconsistencies in its 'performance', in its practical applications. Historically grown thinking does not pretend to possess the competence in such a way that the performances do not contain inconsequences ('paradoxes') as fate.

E.O. L. 12.
(*Note: This is a new page*)

How semantics catches the syntax at inconsistencies.

The pretension of formalized thinking consists in constructing purely syntactic rules axiomatically - deductively which, as computational thinking, are a.o. 'blind', i.e. in absolute confidence, applicable in all singular cases. One hears it : a-priori certain of all cases singularly taken. Which is summative deduction.-- Indeed : an axiomatics, whatever it may be, is a conceptual content which, if formalized (syntactically), predetermines all the singular cases (applications) of its domain (scope).

N. Chomsky's language structures.
Bibl. sample: J. Fr. Dortier, Les sciences humaines, Auxerre, 1998, 82s..
Chomsky (b. 1928), at MIT, developed his *Syntactic Structures* (1957-1), in which his generative grammar took shape.

Appl. model.
"Anneke is selling an ice cream." One can empty the completed 'shells' (partial terms): "Subject - Verbal syntagm - Nominal syntagm".

Abbreviated: S(entence): "Subject. + VS + NS". This is the ribcage of languages seen in its depth structure.

Infinite wealth.
All languages possess the 'competence' (the ability) to construct an infinite number of sentences according to this commonplace (rule). This is called 'permutations' (= different interpretations each time).

Thus : "Joost lost his keys". "Jef hit Jan". That's sentence generation.

Formalism.
Dortier -- Chomsky got stuck -- his axiomatic-deductive fate (finitude), (to speak with Rolland) -- in contradictions (exceptions), (paradoxes).

For example, "An ice cream sells Anneke" is syntactically quite correct but semantically (as far as the reality intended by it is concerned) nonsense!

According to Dortier, despite all the improvements of his syntax (i.e., his formalized axiomatic-deductive system concerning language), Chomsky has not succeeded in eliminating all inconsistencies. Not due to semantic nonsense alone (the semantic nonsense (exceptions) exposes the weaknesses of the syntax (rules)) but thanks to a reformulated formulation of the axioms and the rules of deduction.

In other words: up to now Chomsky s, 'abstract' logic of languages suffers the same fate as that which Hegel/ Bolland foresaw for e.g. the legislations which in time turned into legal nonsense. The same as what they established with regard to all thinking that had grown historically without formalized pretensions.

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"But how to hang a dead person?"
Bibl. sample: *F. Bellotti, Congo prodigieux*, (Prodigious Congo), Paris, 1956, 81.
We dwell on the following story to make you feel the need for perfectly locking systems.

A Bakumu, formerly of the Belgian Congo, was brought before a Belgian court after a murder. Calm and very proud of his deed, he is brought before the court: "I was in a state of legitimate self-defense. Whereupon the judge (who uses an interpreter in time). "According to the witnesses, you started first!".

The Bakumu: "But he had two lances with him." The same answer returns. At that, the judge ends the monotonous debate and decides to entrust what he considers a just verdict to the interpreter and his Negro-African helpers: hanging.

1. The interpreter translates. Bystanders, African judges, even accused clearly agree nodding their heads!

2. But look: the interpreter asks the judge at the end, "All agree. Your verdict is just. But how to hang a dead person"?

The judge postponed the verdict for an hour, hurriedly asked the governor for advice: "But that's done anyway! To go up to a Bakumu with two lances is to tell him "I have come to kill you (in a duel)". Accused was thus in his right. So acquit him". O.c., 82.

1. There is no such thing as a code of law (*note:* the system of agreed rules of law).

Note.-- This would amount to a summative deduction: given a general trait by which all offenses are recognizable, this and that offense will be recognizable.

2. To question all the experts - heads, magicians - in such a way that a complete list (inventory) of offenses - all possible offenses - comes out is equally impracticable. They do not even answer. Nor do they have a sufficient memory. They limit themselves to acting according to tradition (common law) from case to case.

Note.-- Even so a summative induction is impracticable!

Thus one understands the need for formalized codes that one only needs to apply blindly (as the rules of arithmetic e.g.) to know in full confidence what to do from case to case.

That would then presuppose summative deduction (as in the case of what is called "mathematical induction") concerning criminal offenses.

(***Note:** This is a new page*)

Primitive and antique-medieval cybernetics.
Beginning with the Bible.
H. Peels, The Vengeance of God (*The meaning of the root NQM and the function of the NQM texts in the context of Old Testament God-revelation*), Zoetermeer, 1992, says that in 59 texts NQM means "restoration of justice after deviation." In 85%, God is the subject of NQM.

In other words, NQM means "judgment of God" (God's intervention), - something that the old catechism still knew in the term "vengeful (understand: law-restoring provoking) sin" (which involved boundary crossing).

Herodotos.
G. Daniëls, *Religious-historical study on Herodotus*, Antw./ Nijmeg., 1946, sets out what Herodotos of Halikarnassos (-484/-425) called 'kuklos' (Lat.:cycle, circuit), :
a. many things (animals, people) start small and grow orderly;
b. sometimes, however, they reach a state of 'hubris', boundary crossing, deviation (disorder);
c. thereafter follows, in Herodotos's faithful interpretation, a divine restoration (meaning complete demise if need be) of order.

Aristotle.
O. Willmann noted at the time that in his Politika v: 5, speaking of constitutions, Aristotle structures an analogous 'kuklos', course, as follows:
a. 'telos', aim(s), purpose, i.e. order;
b. 'par.ek.base', deviation (disorder);
c. 'ep.an.orthosis' (or still : rhuthmosis), restoration (order).

The latter recalls the so often misunderstood "panta rhei" (usually poorly translated by "everything flows") of Herakleitos of Ephesos (-535/-465), which means, "Everything proceeds according to a kuklos."

E.W. Beth, Philosophy of Nature, Gorinchem, 1948, 35vv, brings up this "order/disorder/reorder". The cosmic harmony (of opposites: order/disorder/reorder) governed equally the inanimate, the living and the human, yes, also the divine nature. He refers to *H.Kelsen, Die Entstehung des Kausalgesetzes aus dem Vergeltungsprinzip*, (The Emergence of the Causal Law from the Principle of Retribution), in: Erkenntnis 8 (1939) who knew that structure. For ancient Egypt, *W.B.Kristensen et al, Antique and Modern Cosmology*, Amsterdam, 1941, confirms the same structure in an analogous way. In other words, he sees it in the whole ancient world as the basis of religions.

Doesn't Platon, *Timaios* 32, say "All these things become causes of disease (sanctions) when the blood does not feed from food and drink (order) but gets its 'weight' from wrong things (disorder) against the laws of nature"?

E.O.　　M.　　15.
Steering Thinking,

Norbert Wiener.
Wiener (1894/1964) met as a mathematician A. Rosenblueth, neurophysiologist, and his activities under W.Weaver (automatic machines). This leads to *Wiener's book, Cybernetics*, published in Paris in 1948.

Wiener defines steering science as "the theory concerning feedback". In other words, the concept of feedback.

Visual model.
Bibl. sample: D. *Ellis/ Fr. Ludwig, Systems Philosophy*, Englewood Cliffs, N.J., 1962, gives the following diagram: supply (input)

---> system ---> outlet (output)
<-- feedback <--
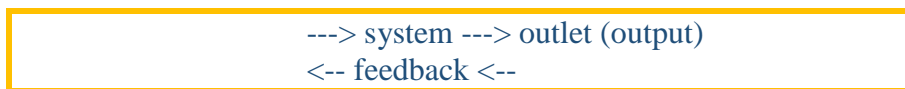
Consider, e.g., a very simple model of "dynamic system: a coffee grinder: the inputs are the whole coffee beans; the outputs are the ground coffee.

Matter/ energy/information.
Ellis/ Ludwig distinguish three types of dynamic systems. The first process (absorb / release) matter (a coffee grinder, a meat grinder), the second process energy (a heating device), the third - and these are of particular interest - process information (converted into material symbols (a computer)).

Feedback
A. Virieux-Reymond, L' épistemologie, Paris, 1966, 66s., defines "feedback" as (on its premise) "recurring" cause. Indeed, the "feed back" (feedback) causes, but taking into account the goal. Upon deviation from the goal to be achieved, the feed back cause returns to the premise and restores the deviation. Diagram: -- Goal-oriented: ---> deviant : ---> feed back (restoring)

Self-regulating system,-- A system in which feedback is built in.
J. Piaget, Le structuralisme, Paris, 1968.-- Piaget articulates: a cybernetic system is **a**. a totality (system), **b.** provided with self-regulation ('autoreglage') **c**. which controls ('regulates') the transformations ('transformations'). Quasi-closed system.-- That self-regulation presupposes that the system is open, (amenable to supply) but not without more and thus quasi-closed because self-regulating.

Mathematical describability. - Purpose/ deviation/ recovery is an ancient concept.
J. von Neumann, The nervous system as a computer, Rotterdam,1986, xix, says: in addition to general mathematical methods, logical (logistic) and statistical methods are employed in cybernetics.

E.O.   M.   16.
Self-regulating systems.

L. von Bertalanffy, Robots, Men and Minds, New York, 1967, distinguishes gauges that are partly identical partly non-identical.

1. *Inorganic.*

The 'regulator' ('regulator') is that part of a machine that keeps its gait (functioning) stable: pendulum (clockwork), 'agitation' (watch), governor/ flywheel (steam engine). J.Watt (1736/1819) invented the latter: a signal (information) controlling the stable speed of the steam engine is embedded in the machine.

If the speed deviates for some reason, the machine regulates the speed as self-regulating by means of feedback to the set target speed.

I.e. goal/ deviation/ recovery (feedback).

2. *Organic.*

The feedback, built into life, causes homeostasis if deviation occurs in "le milieu intérieur", the internal state of the organism (Cl.Bernard (1812/1878)), such that internally (not without co-regulation of external influences of course (quasi-closed system)) acidity, water balance, body temperature, whole metabolism and so on remain stable (except for non-life threatening deviations).

In other words: goal/ deviation/ recovery.

3. *Organic.*

Feedback regulates the reflex to external, deviating influences (not without such internal influences). Fr. Magendie (1783/1855; neurologist) defined "reflex" as that activity which is caused by a stimulus (disturbance) and propagates through the posterior or dorsal nervous system to be thence reflected (restored) through the anterior or ventral nerve roots to its starting point (the cause of the disturbance (deviation)).

There it weakens the initial disturbance, makes it cease or even turn into its opposite. In other words: goal/ deviation/ recovery.

4. *Intentional.*

A. Ellis/ E. Sagarin, Nymphomania (A study of the hypersexual woman), Amsterdam, 1965, esp. 208vv., sets forth the ABC - theory of personality.

(A) A setback disturbs the psychological balance of

(B) a subject who is neurotic, i.e. already in a deviant state beforehand, (

(C) such that the behavior comes across as "disturbed.

The feedback is either from (B) himself, the subject with his common sense,(= feedback insight) showing up or from therapists who bring (B) the subject back to "common sense".

E.O.　　M.　　17.
The computer.
***Bibl. sample*:**
-- P.Heinckiens, Programming is more than typing, in: *Eos* 6 (1989), 9 (Sept.), 69/73;
-- E.De Corte/ L.Verschaffel, Learning to program (*Vehicle for skills*?), in*: Our Alma Mater* 1990: 1 (Feb.), 4/35.

Definition.-- An ordinator is a device that processes - encoded in material symbols - data (data), i.e., information, in the form of an algorithm (set of purposeful operations).

Computer System.
Two larger sections.
1. The computer itself (in front of the keyboard).
2. The background is peripherals.
As a dynamic system, the ordinator exhibits the keyboard as an input machine where the monitor (containing e.g. the screen) and the printer are output machines.-- Diskette.
This is the disk on which the information is stored (the data carrier). Immediately we have memory: the floppy disk as a store of data.
The diskette is input and output unit at the same time. In other words: input, memory, output are the three functions of the diskette.

***Equipment/ software*.**-- Hardware (materiel)/ software (logic).
a. Equipment is the totality of the material components : electromechanical and electronic parts, cables and circuits for electrical power and interconnections;-- a central memory and auxiliary memories;-- input and output organs for the data (information).

b. Software is the totality of programs and associated documentation material (manuals, flowcharts for computer operation).

Both together.
Ph. Davis/ R.Hersh, L'univers mathématigue, Paris,1982, 365/369 (*Modèles mathématiques, ordinateurs et platonisme*), points out that real informatic 'arithmetic' (computer work) includes both aspects: only if both equipment and software are perfectly in order can the computer be expected to produce "the absolute truth".

The authors underscore "what is far from always the case".

This description in brief does not intend to be a computer introduction: it intends to show that the computer is a dynamic system that takes in information, processes it (according to pre-given axiomata), and delivers it. It is thus in mid-century terms "a totum physicum movens" a physical entity that moves.

E.O.   M.   18.

Automatic machine/computer.

Do we start from a model, the automatic washing machine, to understand the original, the 'calculator'.

1. *The washing machine*.

In an automatic washing machine we have one type of dynamic system: the washing machine processes matter, the laundry. But it is "informed. And in such a way that an algorithm is at work.

Algorithm.

An algorithm is a complete enumeration. I.e.: a summering. To capture the total scope of a concept - here: handling laundry - in an ordered series of operations; which collectively constitute the essence, the concept content. In other words: it is a definition.

Washing Algorithm.

An algorithm includes an initial act, a set of intermediate acts, and an end act. Saying: a set of "instructions" (commands), which define a process.

Sequence.

With a substructure, infrastructure, as the premise :

a. place the clothes to be washed in the drum; turn on the electrical power; put the washing powder in the compartment; open the water supply.

b. Depending on the nature of the laundry, an appropriate program (in the built-in microprocessor - i.e. a chip that is logistically structured and has a memory: if you like: a computer in miniature -) is started: a button is pressed that contains one of the washing programs. The machine carries out this program. The waste water is discharged.

c. The clean laundry is removed from the drum.

2. *The computer*.

There is analogy, i.e. partial identity/partial non-identity, between washing machine and computer.

Similarity.-- The computer works according to the structure alleged just now: input - input - of information (instructions)/processing according to program /output.

Difference.-- The washing machine is to a great extent pre-programmed. The computer is much less pre-programmed: those who use it can to some extent enter a program themselves, i.e. program a given and a requested (task) for solution.

Note.-- One can clearly see the degree difference regarding automation. In any case: logic in the form of logistics especially, is rife in machine, automatic machine and computer.

E.O.   M.   19.
Computational thinking : applied logic.

1.1. *Five aspects.*

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

1. Understanding how to use the equipment.
2.1. Understanding the core of the thought process, the algorithm.
2.2. Understanding how to structure information (data).
2.3. Understanding how to apply it to concrete cases (applicative models).
3. Understanding how to shield data from intrusion.

1.2. *Object/subject.*

De Corte/ Verschaffel.-- Learning to program is translating a concept according to its content and scope into a series of operations.

a. *Object.*

GG.-- A legal issue, e.g. a murder.-- Do we think of colonials confronted with 'native' law.

GV.-- Solving with the computer. To learn the relevant case law (summative induction: sample by sample). Once it is known, program it by summative induction. In other words: to do justice to the totality of the issue - we call this 'cognition'.

b. *Subject.*

De Corte/ Verschaffel call this 'metacognition'. The 'mind' of the programmer pictures itself in the algorithm. Those who are biased (obstinate, self-righteous (dogmatising), preferential, as Ch. Peirce calls it) instruct the machine; do wrong to the matter (object). Objectivity - as Peirce says: scientism - adorns. the programming subject.

2.1. *Computer terrorism.*

J. Ellul, Le bluff technologique, Paris, 1988, says that there is a danger that, if one is 'moulded' wholeheartedly into the computer way of thinking, one becomes closed to other forms of thinking

2.2. "*It doesn't have to be programmable all the time.*

Prof Weizenbaum, M.I.T., criticizes what was considered a duty at a number of American universities: "Every student his computer". He strongly wants to avoid that one looks at a learning material exclusively from the axiom: "It must be programmable". This is what we call "axiomatic induction": one takes samples in a (total) reality only insofar as these samples are in line with the axiom of programmability.

Note.-- Traditional logic, especially if actualized, can learn much from e.g. cognitivism (logistics among others) but is fundamentally broader in scope.

E.D.   M.   20.

The essence: of. Programming.

'Programming', algorithm, is depicting a task (GG+G) in a logically correct sequence of 'elementary' (irreducible) - understandable to the type of computer - actions ('steps').

"Algorithmic thinking is the hard core of computer science". (*H.Haers/ H.Jans, Computer science and computers in education,* in: Streven 1984: July, 928/940).

'Programming' (algorithm forming) is to begin with pen and paper at the table, before deploying the device, preparing the programming. This involves defining the task entirely and only the entire task (complete enumeration or classification) in the mind (cognition) by dividing it into steps. This means:

a. summative induction (from each step individually to all steps collectively) in preparation for

b. summative deduction (getting the series of steps after one on paper).

That's "logically correct."

Structures.

These are programming modes (actually definitions).

a. *Iterative definition.*

Monotonous repetition.-- Model: a, a, a, a, ..-- The task (instruction) is repeated.

Appl. mod..-- Asked-- Retrieve a list (= summative induction) of twenty names from the computer's memory : one presses "enter a name" twenty times.

b. *Sequential definition.*

Non monotonous sequence.-- Model: first a then b, further c, etc..

Appl. mod..-- *Asked.--* Translate coffee into an algorithm.-- Initial act: I go to the coffee machine. Intermediate acts: take the jug; walk to the tap; fill the jug with water. Etc.

Note.-- Here it is clear that one must first know the sequence in virtue of summative induction before programming them logically correctly. c. Selective definition.-- Plurality of choices from which to choose.

Model: "If Asked, then yes; if not, then no; Or vice versa.

Appl. mod.: Pension calculation -- "Does the entitled person belong to one of the categories: laborer, employee, self-employed, yes or no? "Has the beneficiary had a full or incomplete career, yes or no?" (...).

The computer stands or falls with the completeness of the data, i.e. - we repeat ad nauseam - with summering (preparatory inductive and then programming deductive summering). Only the totality of the data and the requested data guarantee the computer.

E.O.   M.   21.
Chemistry algorithm.

Bibl. sample: *B.Faringa/ R.Kellogg, Factorizing* (Nobel Prize in Chemistry 1990), in: *Nature and Technology* 58 (1990): 12 (Dec.), 832/839.

1.1. *Synthesis.*

E. Corey (with some twenty collaborators) worked on the "creation" (synthesis) from last elements (often compounds with carbons) - in computer language: bottom up - of gibberellic acid, a complex plant hormone. This is a preliminary phase to the manipulation of biological traits.

1.2. *Retor synthesis.*

Corey elaborated on the method.

1. Decomposition.-- Complicated structures he laid out down to the indivisible elements. In computer language : top down.

2. Creation.-- He resynthesizes.

Role of the computer.

The LHASA (Logical Heuristics Applied to Synthetic Analysis) is a computer widely used in universities and industrial laboratories (including in drug research).

Note.-- Corey has been applying that method at Harvard Univ. since 1959. Precisely that computational logic on synthesis was one of the main reasons for his 1990 Nobel Prize.

2. *Total synthesis*.

The creation of natural substances (organic compounds of natural origin) -- starting from simple molecular elements -- is called "total synthesis. The atoms from which a hormone or an antibiotic is combined, their interactions, -- the functional (playing a role) groups in them, the spatial structures play a role in total synthesis....

Algorithmic.

Appl. mod.: Corey thus synthesized ginkgolide-B, a complex compound found in ginkgo biloba (the well-known Chinese tree of life). This was done by step by step a. decomposing (decomposing) into 'synthones' (non-decomposable elements) and b. resynthesizing by combining in thirty-seven steps.

One recognizes the structure of retor synthesis outlined abstractly above.

Note.-- So one sees that the algorithmic method, known to all kitchen specialists (their prescriptions are algorithms), is getting an unsuspected application in the (bio)chemical field but not without the computer as a control tool on very complicated algorithms. That is the 'power' of it!

E.O.　　M.　　22..
Neuro - or brain sciences. (55/63)

According to *J.-Fr. Dortier, Les sciences humaines*, Auxerre, 1998, 213ss., the cognitive sciences emerged around two poles: the ordinator and the brain. I.e. from computer science and neuroscience.

The latter are:
a. *neuroanatomy,* which is the anatomy of the brain (from the cells to the major brain centers);

b. *neurophysiology and neurobiology*, which addresses the internal functioning of the brain (e.g., how a "message" (information) is transmitted from one cell to another);

c. *neuroendocrinology*, which has as its object the relations between the nervous system and the hormonal system (e.g., the hypothalamus (under the thalamus) is one of the centers that controls, among other things, body temperature or sexual maturation);--

d. *neuropsychology*, which accounts for the role of the brain in human behavior (think aphasia, interference with speech, usually caused by brain injuries).

R. Carter, Mapping the Brain (*On an Exploration of the Human Brain*), Nature and Technology, 1998 (// *Mapping the Mind* (1998)), 10, states what follows.

Human brains consist of very many parts, each with its own role : turning sounds into language (speaking), noticing colors, registering fear, recognizing some object, seeing differences between data.

But this collection of "parts" has not been recorded once and for all:
a. every brain is single;
b. exceptionally sensitive to what is going on in the organism's environment;
c. in constant change.
The "parts" interact with each other (typical of the system that is the brain).

More to the point, the roles that are played can change. A 'part' may not function due to a genetic defect. A 'part' may take over the role of another.
As factors one now knows **a.** electrical impulses; **b.** chemical substances; **c**. mysterious 'fluctuations'. Among other things. Perhaps the 'parts' and immediately the whole brain undergo the influence of the universe (defined as time-space).

Conclusion.
"Our brains are probably so complicated that they will succeed in understanding their own workings" one might say. Which writer doubts.

E.O.   M .   22.
A sampling of our brain activities.
Bibl. sample: R. Carter, Mapping the brain, Nature and Technology, 1998,14.

1. *The cell network*.
The brain exhibits two types of cells.
a. 9/10 glial cells. Quite simple in structure. Main role: to ensure the orderly coherence of the brain. Perhaps: a role in the electrical processes within the brain (amplifying, synchronizing).

b. 1/10 neurons. The actual cerebral cells. Furnished to exchange electrical signals among themselves.
    a/ Thin long specimens with unbranched winding spurs to the body tips.
    b/ Star-shaped specimens extending in all directions.
    c/ Specimens provided with a highly branched crown,

2. *Electrical chain reaction*.
Each neuron is connected to at most 10,000 neighboring cells.-- The spurs create contact: axons that conduct impulses from the cell body; dendrites that conduct incoming information.-- Axons and dendrites fit together in synapses (narrow slits).

Each axon releases a neurotransmitter (a chemical) into the synapse cleft such that the electrical signal passes through. This neurotransmitter stimulates the neighboring cell so that it, in turn, emits a signal.

This creates the chain reaction: the millions of interconnected neurons thus live through simultaneous activity.

The influences on our minds
This shows the cognitive aspect. The immeasurable chain-reactive process - involving molecules and cells - controls, at least in part, the life of our minds. Most biological process-based psychiatric therapies are interventions in that process.

Antidepressants (drugs used to treat depression and its symptoms) - such as the notorious Prozac - cause serotonin (a type of neurotransmitter) to elongate in the synapse so that more electrical signals can be exchanged between certain neurons.

Research is underway for drugs against the effects of stroke, dementia, Parkinson's disease.

Note.-- Some researchers cherish the hope of finding in the neuronal network "the secret of human consciousness." Maybe! And if ever an explanation from here comes, at least a partial one; we have brains but are conscious with our minds.

E.O.   M.   24.
The two hemispheres.
Bibl. sample: R.Carter, *Mapping the brain*, *Nature and Technology*, 1998, 34vv. (The great divide).

This is a sample to make you feel how mind, (and philosophy of mind) can also be served with brain research....

1. *The brain consists of two halves*.
The constant interaction between the two makes it "extraordinarily difficult" to accurately delineate the respective roles of the two. Nevertheless, research shows that the halves master very distinct skills so much so that - under normal conditions - certain skills are always located in one or the other.

2.1. *Normal.*
They are connected by a bundle of fibers that ensure very accurate information transfer throughout. Yes, the information that flows into one of them is as good as immediately available to the other half. Both reactions are so reciprocal that they substantiate, in the conscious mind, an experience (perception/awareness) of the outside world within the same consciousness.

2.2. *Separated.*
When separated, they show their own nature more strongly.
Still: if one of them fails at an early stage (the younger the better), then the other half can take over the functioning of the failed one.

Note.-- Which shows that life reorganizes itself to some extent to survive, to cope with 'life'.

Further explanations.
The left hemisphere is logical, dissecting, exact, happy, time-sensitive. The right hemisphere is sensory, attuned to rather vague totalities and dreamy,--prone to sadnesses of all kinds (fear, sadness, pessimism).

If the left hemisphere fails, e.g., because of a stroke, then, even if the situation is subsequently quite satisfactory, the person affected is gloomy. If the right hemisphere fails, then the afflicted react optimistically to the point of utter indifference,--refusing in extreme cases to deal with the downsides of their condition (e.g., not even noticing their own blindness or paralysis (a.nosognosy)).

Peculiar: truly lived 'wit' (humor) requires the two halves. But e.g. orienting ability puts the right half first.

Conclusion: how dependent the functioning of our mental life is on the brain!

E.O.   M.   25.
Bibl. sample: R.Carter, Mapping the brain, Nature and Technology, 1998, 27, 201.

The prefrontal (anterior) cortex (cerebral cortex) is where the biological underpinnings of accountable behavior are located.

Gage.-- *According to J. Harlow, Recovery from the Passage of an Iron Bar through the Head* (1868), Phineas Gage, after a premature explosion of a bursting charge (bar in the head), lost the large portion of the anterior brain. He survived but was no longer the purposeful, hard working railroad worker.

1. Animalistic passionately strong (dangerous for women); through and through transverse in time.
2. Intellectually infantile. Brimming with plans. But erratic and tallowy. Never taking his plans seriously.

In Gage's case, it became medically clear for the first time that insight into one's own behavior and conscientious control of it through free will have a neurological underpinning in the frontal lobes (front part of the brain).

Since Gage, numerous cases have been discovered. Yet his brain injuries remain the most impressive. Most suffer from ordinary - more common - brain injuries such as stroke. There are also quite a few cases of people who, due to brains that never reached full development, never exhibited higher mental activities.

J.P..-- J.P. was a boy with normal I.Q., but in his dealings with fellow human beings he was radically unfeasible: he lied and cheated. He indulged in thefts.

Bar behavior: once he borrowed a glove, "pooped in it" (sic) and gave it right back.
Any sportsmanship was unknown to him.

Consequence.-- Several times he was jailed or psychiatrically hospitalized. The psychiatric designations sounded: psychopath, manic, schizophrenic.

Neurologists determined at age twenty that his left frontal lobe was severely shrunken and the right was missing. They followed J.P. until thirty years later: he was then still "without understanding; without any anxiety; unaware of his total present and future life situation."

Conclusion. - Mere blind application of moral axioms without providing 'exceptions' for medically (especially brain science) clear cases is mere axiomatic-deductive reasoning! Such that semantic nonsense is needed to falsify the moral system.

E.O.   M.   26.
"The illusion of free will".
Bibl. sample: R.Carter, Mapping the brain, Nature and Technology, 1998, 180vv..
O.c., 23: "The cortex (cerebral cortex) cingularus anterior (in the upper forehead) is the seat of the 'I'" O.c., 191: "Consciousness is the product of brain activity, a property of the material world." As writer herself says: consciousness is not an unsolvable mystery but apparently first of all neurologically-explorable.

Note.-- The self-confident tone seems to insinuate that consciousness, outside of neurology, has never been (finitely) investigated! Which does not prevent o.c., 181 from saying "Answers that are conclusive about the correct relationship "neurology/consciousness" have not yet been found."

Note.-- Something that should prompt great caution.-- Incidentally Carter's statements are not very logically coherent.

Appl. mod.
O.c., 191.--"Hysterically paralyzed" are paralyzed somewhere while the organ involved is intact and the connection to the brain is unharmed.

A woman hysterically-paralyzed in one of her legs was screened with PET (positron emission tomography) as she fruitlessly tried to move the leg. The scans' (images) showed the frontal lobe (anterior brain) luminous with each attempt.

In other words, the normal automatic domino effect from the will center in the frontal lobe to the premotor cortex that processes movement appeared to be interrupted. Her free will did not control that mechanism.

So much for a model of dependence of the self as free will on neurons.

In passing: is the totality of this paralysis thus completed? In other words: what, exactly, is thereby proven?

"The illusion of free will".
Our established moral and also our judicial code (understand: axiomatic) says: "Each one of us possesses an independent mind". "The mind in the apparatus that controls our actions". Carter calls this (Cartesian) dualism, because the mind is too independent of the body for her.

She seems to be neglecting
a. the presence of psychiatrists and neurologists in courts of law and
b. the fact that e.g. church morality manuals begin by distinguishing "act of a human being" ("actus hominis") from "human act" ("actus humanus"), for centuries!

Freedom of will is not "en bloc" but gradatim by the way and was not invented to punish people!

E.O.   M.   27.
Unisex?
Bibl. sample: R.Carter, Mapping the brain, Nature and Technology, 1998, 63vv.

The brain centers that partly determine sexuality are different in men and women due to hormones. Behavioral and environmental models may also play a role. But the thorough model is largely already determined by the genes: they generate typical male and typical female behavior (o.c., 72).

One sees: simple is not.

Typically male and typically female sexuality is underpinned by different portions of the hypothalamus (a group of nuclei (vesicle-like bodies) in the occiput (midbrain)). Under that viewpoint, there is no such thing as unisex.

1. *Male.*
The medial preoptic area (in the hypothalamus) partly underpins sexual desire for a female partner. From there signals run to the cortex (cerebral cortex) resulting in ongoing arousal and penile erection.-- Assertive type.

2. *Female*.
The ventromedial nucleus (a group of neurons that also underpins appetite) determines lordosis (offering the sexual organ) partly in a sexual context.-- Submissive type.

Type and severity of sexual behavior are also determined in part in both sexes by the action of adrenaline (adrenal hormone) and testosterone (testicular hormone).

Note.-- The medial preoptic center also captures signals from two nuclei in the tonsil nucleus (in close proximity to the hypothalamus), the corticomedial and the basolateral nucleus both of which are involved in the development of assertive or even aggressive behavior. Which may explain the conflation of sex and aggression in men.

Homosexuality.
Science, the well-known journal, publishes in 1991 an article by *S. LeVay* (prof biology Univ. Calif.), himself homosexual: the brains of a group of homosexual men who had died of AIDS differ from those of heterosexual men. The nuclei (hypothalamus) are much smaller and approach female nuclei. Later it was also found that the corpus callosum (midbrain) is larger.

A gene (as it turned out later: D.Hamer) would also play a role.

E.O.	M.	28.
The brain.
Bibl. sample: J. Fr. Dortier, Les sciences humaines, Auxerre, 1998, 213/220 (*L'architecture du cerveau et ses niveaux d'organisation*).

1. *General overview.*
The author distinguishes multiple discs.

a. *Neurons*.
The number is around one hundred billion. The anatomy (nucleus/ axons/ dendrites, synapses) is known. Information flows through the synapses. Unlike other biological cells, neurons do not renew themselves (except for neurogenesis in the centers for smell and memory according to researchers).

Neuronal network.
a. The genes, the interrelationships of the neurons as well as the stimuli from the environment determine the structure - in - action'.
b. but the how of this curious dynamic system is "as good as an utter mystery" (o.c., 215)7

Appl. mod..-- The interaction between a few thousand neurons as the underpinning of our comprehension (e.g., concepts such as "kilometer," "grandmother,",-- "freedom" (the latter an abstract concept)) and of our limb control (e.g., eye twitching) is "a total unknown.

Note.-- This radical unfamiliarity of cognitive scientists should perhaps lead them to great caution in the field of mind-psychology and mind-philosophy.

b.1. *Neuron groups*. The smallest discovered (V.B. Mouncastle after 1970) involve about a hundred neurons (one mm. wide). They are called "columns" or "modules. They underpin mental activities such as orienting oneself or still defining an object by place, shape and color.

b.2. *Centers.* Thus e.g. the language centers (left hemisphere). So the (pre)-frontal cerebral cortex (cortex) as a center for accountable behavior.

b.3. *Halves*. Especially since *R.Sperry* (*Brain Section and mechanisms of Consciousness*) who was awarded the Nobel Prize in Medicine 1981 for this. 2. Parts,-- They are there. But function only after a learning process.

Note.-- An animal, raised in absolute darkness, is blind and after a certain age irreversibly blind.

Conclusion.-- Collective evolution (of all life forms), individual evolution (epigenesis) and cultural evolution together determine the structure of our brains. Thus concludes Dortier.

E.O.   M.   29.
Roger Penrose's views on (the emergence of) (self)consciousness.
R. Penrose, prof of mathematics Univ. Oxford, in a paper "*Can a computer ever really understand?* " in: *R.Carter, Mapping the brain*, *Nature and Technology*, 1998, 203, writes what follows.

Comprehension (understanding) and brain.
"There is a specific element in the brain where understanding occurs." He believes: "understanding that includes (self) consciousness".

His reasoning.
Microtubules, extremely fine tubes that are especially widespread in nerve cells, could lead in brain cells to a "stable quantum state" such that throughout the cerebellum (*note:* the cerebellum in the back of the head at the bottom), the activity of brain cells is bundled and "thereby makes consciousness. possible."

Note.-- Quantum state.
-- This is a reference to Max Planck's quantum theory, articulated around 1900, which fact that energy in the microphysical realm consists of "energy grains," extremely small, separated (as far as possible), energy doses.

The distinction between cause and part of cause.
The concentration, purely biological-cerebral, of brain activity: is it alone and in itself sufficient to create consciousness or is it only a partial cause, indeed only a trigger?

It could be that in order to act within the cosmos our conscious mind needs brains (as well as a whole body) to function but in such a way that it itself does not coincide with that brain (and that whole body) without question. Penrose does not even ask that question.

Notes.
Penrose believes what follows.
1. The ordinators created so far do not possess much, if any, capacity for understanding (intelligence). Thus the overwhelming crowd of scientists.

2. The computers or computer-controlled robots to be created in a near future will - according to the opinion of many scientists - possess real intelligence and will therefore be aware of what they are doing.

For Penrose considers 'understanding', also 'artificial intelligence or understanding' non-existent (he thinks first contact with a phenomenon) is "a first step towards the understanding of a phenomenon". In doing so, he speaks as if consciousness is only phenomenological.

E.O.   M.   30.
The dog with a traumatic neurosis.
Bibl. sample: Tr. Braatoy, From the practice of a psychiatrist, Utrecht, 1939.
Dr. med. Braatoy was a Norwegian psychiatrist. The excerpt is situated within a chapter on "the traumatic neurosis", i.e. "the nervous state" following a shocking phenomenon (an accident e.g.).

Schedule.
(A) A harmful situation
(B) makes its mark on the soul
(C) such that the behavior printed goes under (A). - This behavior shows itself when analogous situations actualize the traumatizing shock.

Pavlov's traumatic-neurotic dog.
The story begins with the "harmful situation."

1924.-- Petrograd (Leningrad) is ravaged by a severe flood. Pavlov's laboratory was reached. "There was a violent storm. Rising water masses with waves. Cracking and falling trees.

The test animals swim escorted in small groups from the kennel to the laboratory where they were mixed up. Unusually for dogs placed through them: not a single fight was observed. Not even a scuffle.

Afterwards, they were led back to the kennel.
(1) Some behaved normally.
(2) Others, however, behaved unusually.... Thus a "strong and healthy dog" in whom the reactions were extremely successful. For example, he reacted in advance to a snoring -- the strongest sound in the experiments -- with the strongest secretions.-- One week after the disaster that dog was placed in the experiment room as he was used to.

1.-- *Cognition and information processing.*
The animal was extraordinarily restless and all conditional reflexes were practically absent. He who before was very quick to attack food, now would not even touch it. When it was brought in, it even turned its head away. This went on for three days.

Note.-- This shows that in (B), the inner life of the dog, memory had taken hold. The decision not to eat food worked out this memory in his (C) behavior.

2.-- *Incentive.*
When experimenting, the experimenter now placed himself with the dog inside the room. "On the first trial all reflexes (about ten) were immediately restored. The dog ate eagerly". If the experimenter was no longer there, this sufficed to reawaken all abnormal behavior.

Note.-- The presence of a familiar worked encouragement (incentive).

E.O.   L.   31.
3.-- *The strong whirring sound.*
Only after eleven days did they reintroduce the strong humming sound: "All other conditional impressions were processed almost perfectly. But the dog did not eat, was restless, stared at the ground".

4.-- *Incentive*.
One reintroduces the presence of the experimenter: "Gradually and with relapses the dog regains his old forme. He seemed to be completely fine only after a "treatment" of 47 days. Two months after the disaster!

5.-- *New experiment.*
a. To a series of stimuli the hand responds as before, i.e. with marked salivary reaction which, as usual, varies according to the strength of the impressions. In the process, he also eats eagerly.
b. But suddenly, let a stream of water flow noiselessly under the door of the room until a puddle forms near the dog.

Analogue situation.
Quickly the dog jumps up, restlessly he stares at the floor, wants to pull away, breathes heavily.-- When experimenting with impressions he reacts only with increased agitation. He refuses to eat.

Note.-- The (A), the disaster, has left in (B) the inner life of the dog, a memory that makes him react (act of will) in (C).

Comment.
In this regard, Braatoy, as an experimented psychiatrist, says: "Animals and humans can be exposed to violent impressions that throw them so off balance that for a short or long time they.

Note -- via (B) -- lack the nuanced control of their nervous system. Such a condition is seen in dogs just after the flood".

"But nervous health - this is how Braatoy expresses undisturbed mental life - will also depend on the relationship between the shocking events and past impressions."

His conclusion.
The dog's reaction at the pee, not so shocking in itself, but recalling the disaster (which is history), is incomprehensible until one knows the "past history" (the disaster).

In other words, past impressions, especially heavy ones, continue to "mark" (in (B)) and express themselves with other reactions in (C).

In that case, (A) is and present and past traumatizing event. Human caretakers of all kinds apparently do well to keep Pavlov's story in the mind as an informative hypothesis (or axiom even).

E.O.   L.   32.

Cognitive. and information processing psychology.

Let us begin with a very brief sketch of what preceded both psychologies. For they are correctives of existing one-sided psychologies whose results are not denied.

A.1. *Naive behaviorism.*

The phenomenon of "behavior" (responding, as far as observable and even measurable, to impressions) is reduced (unilaterally) to "impressions (stimuli) automatically followed by responses (responses).

The schedule.

> Press (A) -- (Black box (B) -- Answer (C)

Psychoreflexology.

I. Pavlov (1849/1936), Nobel Laureate for research on conditioned (conditional) reflexes, noted that stimuli (inciting impressions) such as being presented with food or smelling food or events related to both (the steps of who puts on food) are automatically followed by physiological responses (salivation, gastric juice secretion).

He also identified inhibitory impressions (anti - stimuli).

A.2. *Neo-behaviorism.*

This introduces "intermediate elements" between A (impression) and C (response). These are: **a.** motivations and motives (D),

b. incentives (the previous reinforcing elements: e.g., the presence of fellow human beings) (K) (Kurt Lewin) ,

c. habits (habitats)" (H) These variables present within the inner life are, in behavioral psychological conception, observed indirectly (e.g., from knowing that someone is starving, one decides on enhanced drive; via equipment).-- One sees that the X (black box; "black box") is filled.

B.1. *Cognitive psychology.*

The black box is further completed! In addition to automatic reflexes and intermediate variables, one assumes:

(A) meaningful situation;

(B) rational-rational interpretations, (which appear as complex and involve purposeful behavior ('intention'));

(C) meaningful behavior...

B.2. *Information processing psychology* (mind 'philosophy).

"Study of Mind" (the study of the person as 'mind').

Diagram: **(A)** information of all kinds;

   (B) a system of mental processes (especially memory and decision ;

   (C) of 'mind' (human spirit) response. Those who want to know details about this read e.g. *C. Sanders et al., The cognitive revolution in psychology*, Kampen, 1989.

E.O.   M.   33.
(*Note: This is a new page*)

"Folk: psychology.
Z.W. Pylyshyn (a.k.a. *Computation and Cognition* (*Issues in the Foundations of Cognitive Science*, 1980)) aligns his strictly scientific psychology with "folk psychology", i.e. the "psychology" (i.e. identifying and interpreting psychic phenomena) as the common sense (in its healthy or deranged forms) interprets behaviors - in language form e.g. So we say : "folk psychology".

Bibl. sample: Ch. Lahr, Psychologie, Paris, 1933-27, 43/48 (*Les facultés de l' âme. Division de la psychologie*), (The faculties of the soul. Division of psychology).

This old (and partly outdated but still stimulating) handbook already knows the scientific psychologies of the time (including the experimental but also the Würzburg school) but, like a Pylyshyn, still starts mainly from what "the man of the street" (who can sometimes be an excellent connoisseur of people) has to say about the matter.

Lahr relies primarily on the use of language as saying psychic phenomena out loud.
Are we going to address that for a moment.

1. *Cognitive psyche.*
"I hear a strange sound". "I vaguely remember that ...". "I picture his predicament". "Do ye see them coming?".
Familiarity with phenomena stands out as the first characteristic.

2. *Affective psyche*.
"I still suffer from the fact that ...". "I see that he is sad for the reason of....". "She enjoyed the spectacle". "He does not appreciate me at all because I am ...".
Mood response to phenomena stands out here.

3. *Volitive psyche.*
"I didn't want to say my opinion out loud because . ". "I prefer to stay". "She is making a great effort to become a doctor." "We oppose that project because ..." .
Persistent reaction to phenomena is evident here.

When we read the examples of cognitive psychologists, we quickly see that they move little outside the domain just described.

Their applicative models are at times indicative of a nasty sense of platitudes. Which shows that Lahr 's handbook still comes across as more or less scientifically and especially philosophically exploiting what all of us as ordinary people-which professional psychologists are day in and day out (except when acting in their scientific role)-have gained in a sometimes very rich human knowledge.

E.O.   L.   34.
Cognition Bibl. sample*: Fr. S. Rombouts, Psychology of school subjects*, Tilburg, 1951
154vv. (Thinking processes in issues).

To make the current concept of cognition accessible, we begin with a simple model. J.
Dewey (1859/1952). According to Rombouts, Dewey (School and Society (189)), drawing on
his pragmatism, describes the thinking process as follows.

1.1. *Given:* A difficulty (A) along with the first reaction (wavering). Immediately sensing
the GV: "What solution". (C).
1.2. *Given*.-- Continuing to confront the difficult phenomenon. 'Analysis', i.e. seeking
relations within and outside the **Given**. Until one finds "the knot". (A).

2.1. *Asked.* -- On the basis of past experiences (what is 'history') (information) (B) and as
a result of the 'analysis one designs a set of difficult solutions as a result of an acquired global
understanding, with a view to the best one.(C).
2.2. *Asked*. Deduction of inferences from the best solution.(C).

3. *Asked*. -- Conclusion (If A and B, then C) and execution of deductions.(C).
Immediately following, Rombouts provides an applicative model.
Given. -- Jan gave a fifth of his marbles to his little brother. He. kept twenty himself.
Asked. -- How many did Jan have left? According to the proposer, in working out the
solution in the spirit of the schoolchild, the concept of the "fifth part" is central. In other words
: that is Dewey's "knot". Then he sees the following steps (algorithm).

a. *The thought process.* Round up the knot days relations.
    1. Deduction relation.-- The whole sum (summative induction) minus one fifth.
    2. Equality relationship.-- Four fifths equals twenty marbles.
    3. Partial relationship.--Four fifths of the twenty marbles.
    4. Multiplication relation.-- Five times five.

b. *Trial and error*.
    25 marbles minus 5 = 20.

Syllogistic.
Prephrase 1.-- Every sum is 5/5. (axiom, summative deduction) This is 5 x 1/5.
Prephrase 2. (rule of three) -- Well, 1/5 is 5 marbles.
Postphrase.-- So 5 x 5 = 25 marbles.

The whole of the thinking operation seems to us to be computational: the series (algorithm)
of steps proves it. Yet there is a holistic moment (2.1. Asked), namely at some point the child
reaches a global insight.

Among cognitivists en' a debate is going on: some see the computer as the model; the
others the global insight into the connections of the data.

E.O.   L.   35..
The birth of cognitive psychology.
Bibl. sample:
-- J. Fr. Dortier, Les sciences humaines, Auxerre, 1998, 204;
-- M. Huteau, Les conceptions cognitives de la personnalité, Paris, 1985, 193ss. (*Le "new-look" perceptif*).

Dortier pauses for a moment to reflect on what he calls "the famous experience of Jerome Bruner," Professor of Psychology at Harvard Univ. regarding "categorization" (arrangement, i.e., classifying phenomena according to traits within the same comprehensive concept).

Note.-- Immediately it is clear that the Mannheim school, in particular O. Selz, was already on the same wavelength. Dortier does not hesitate to label Bruner as the father of cognitive psychology.

Early 1950s.
pp. were asked to "categorize" (arrange) cards of different shapes and colors. Bruner thereby experimentally-psychologically discovered the appropriate mental 'strategies' (methods) applied by the pp. in arranging.

Appl. model.
A reference map is entered. Then the pp. search for those maps that exhibit common features as seen from the referral map (reference map). This is called focusing (convergence).

Appl. model.
According to Huteau, one distinguishes
a. formal "determinants" (influencing factors) of perception/sensation (stimuli with special properties; perceptual and sensory abilities (receptors, transmission mechanisms, centers)), which attracted the attention of researchers until 1940 and

b functional determinants (past experiences, needs, life attitudes, values, feelings), more specific to the personality of the pp.
The latter attract the attention of the research community from 1940,. Thus Murphy (1942). This view of the personality which already shows itself in observation/sensing is called "new-look".

Scanning is one of the appropriate methods:
1. expectations (for the experiment),
2. the processing of the data,
3. value judgments are scanned as means to fathom the expectations ("hypotheses") of the pp.
Cfr *J. Bruner/J. Goodman / C.Austin, The Study of Thinking* (1956).
Needless to say, paying attention to conscious thought processes, typical of cognitivism, was quite a different thing from merely paying attention to the automatic responses to stimuli of behaviorists.

E.O.   L.   36.
"I lost my keys" (cognitivist).
Bibl. sample: J.Fr. Dortier, Les sciences humaines, Auxerre, 1998, 299.
The **GG**.-- "I lost my keys".
The **GV**.-- What 'strategies' (search and find methods) are available to me? In other words, what solution methods are available to me?

a.1. I methodically go through each part separately of my whole life domain. This is how I find the keys.
Note.-- Summative induction.

a.2. I methodically go through every part of my habitat but can't find the keys.
Conclusion: My summative induction was incomplete: e.g., someone stole them and took them outside of my habitat.

b.1 I search in those places where I "think" they are: my pockets, under the table of my desk, wherever I usually live.
The summative induction then applies only to the probable sites according to my superficial thinking.

b.2. I search in that place where I clearly or not remember having had them on me.
This is then a summative induction of extremely small size: I look for the whole room or e.g. where, according to my recollection (memory), I still definitely had them.

Summering.
Here again, for the umpteenth time, it appears how frequently our cognition operates summatively, i.e. scans entire collections and entire coherences (systems) sample after sample. Which amounts to an algorithm, i.e. a purposeful set of actions.

Cognitivist.
Now we listen to the cognitivism on the subject.
a. The first two methods - 'strategies' - are called 'algorithmic', i.e. relying on an overall inventory of possibilities. The methods are called 'infallible' but burdened with loss of time and energy.

b. The last two methods are called 'heuristic', i.e. 'supported by probabilities'. These are called 'fallible' but feasible without loss of time and energy. 'More effective' than the previous ones.

According to Dortier, the programs of the A.I. are constructed heuristically. A chess program does not work 'algorithmically' but 'heuristically': not all possible moves are considered. In other words, the device mimics human cognition. So that method is 'fallible' but without loss of time and energy. Like the human being!

(**Note:** *This is a new page*)

'Abduction' (denoted as causal reasoning).

Bibl. sample: *Chr. George, Polymorphisme du raisonnement humain* (*Une approche de la flexibilité de l'activité inférentielle*), (Polymorphism in human reasoning (An approach to the flexibility of inferential activity)). Paris, 1997, 113/ 127 (*L'abduction et l'explication*).

Note -- The work, like *H. Hempel Variabilität und Disziplinierung des Denkens*, (Variability and discipline of thinking), Munich/Basel, 1967, emphasizes that human reasoning ('l' inférence) is more than syllogistic deduction.

Note.-- Which already Platon recognized very clearly and distinctly. Witness his lemmatic-analytical method. Which already *Aristotle* in his *Topika* very clearly and plainly makes clear, as *W.Klever, An epistemological mistake*?, in: *B. Delfgaauw et al, Aristotle* (*his significance for today's world*), Baarn, 1979 (e.g. 37v., 39vv.) demonstrates emphatically.

Peirce's abduction

The diagram: "All the beans in this bag are white. Well, these beans are white. So these beans come from this bag".

This is neither deduction (so these beans are white) nor 'induction' (so all the beans in this bag are white), where 'induction' is understood by Peirce as generalization. Abduction, for him, is 'generalization'. Which George does not seem to have grasped, for he narrows 'abduction' to mere causation (which misses the true scope of abduction).

The author George, is a reasoning psychologist.

Therefore, he translates abduction for the purpose of reasoning pp. into what follows.

Given. - Rosalyn, after eating snails, had indigestion.

1. The other persons, having eaten snails, had no indigestion,.
2. Rosalyn, when she eats other foods, has no indigestion.
3. Rosalyn, after having eaten snails, almost always had indigestion beforehand.

Explanation.

The first of the four sentences is called "intended event."
1. Is called 'persons'. **2.** Is called 'singularity' (stimulus). **3.** Is called 'moments'.

Asked. - The causal explanation of the intended sentence.

Using the three explanatory sentences (representing the "dimensions" of the event). They articulate what others experience in the same situation **(1),** what Rosalyn experiences in other situations of the same type, **(2)** what Rosalyn experiences at other times in the same situation **(3).**

Note: it is not logic or even logistics (which is presupposed): it is psychology testing pp. for their cognition. With the intention of partially 'falsifying' a tradition.

E.O.   M.   38.
The artificial intelligence (a.i.).
Bibl. sample: J. Fr. Dortier, Les sciences humaines, Auxerre, 1998, 220/ 230.

We outline with the author the genesis.
1956.-- Univ. of Dartmouth (USA).-- J. McCarthy, mathematician, hosts a seminar on A.I. (name he invented). Present: H. Simon (Nobelpr. economics) and All. Newell with their Logic Theorist (a program that makes proofs of mathematical theorems possible (the first A.I. program); further: M.Minsky (mathematician) and Cl. Shannon (the founder of information theory).

New design.-- The ordinators of the time were lightning-fast calculators gifted with an astonishing memory.
A.I. is something else: to mimic human intelligence (with its "strategies" like perceiving, understanding human language, reasoning, tutoring, composing music etc.) as perfectly as possible.

1.-- 1956+.-- Simon and Newell design the General Problem Solver (GPS), McCarthy LISP (still in use). Chess programs emerge.

2.-- 1970+.-- Robotics emerges. Expert systems" are designed (Dendral, Mycin). The first programs on understanding natural languages (Shrdlu (T.Winograd), Eliza) take shape.

1970.-- Artifical Intelligence publishes its first issue. In other words : the birth of an organized A.I. operation.

Some basic concepts.-- To specify.
a. *Strong/ Weak Al.* -- The supporters of strong A.I. want "a lot," nothing less than the simulation (imitation) of the mechanisms of human intelligence. The others limit their goals to pragmatic domains: practical tasks.

b. *Expert system*.--This is the name for an informational program that allows
    a/ assess a situation (with its unknowns)
    b/ such that a rational conclusion becomes possible. In other words: doing by machine what otherwise an expert does with his 'mind'.

Thus: one first takes stock of what a physician, following a number of symptoms, determines (= summative induction) and prescribes as therapy; one then inserts that into the "expert system."

c. *Fuzzy logic.* L. Zadeh (1960+) introduces the notion of a fuzzy set (an element can belong to a set from 0 to l probabilities).

E.O.   M.   39.
(***Note:** This is a new page*)

An approximate understanding of "connectonism.
***Bib. sample:** B. Cadet, Psychologie cognitive*, Paris, 1998, 73/83.

Cognitivism has variants that sometimes come across rather as counter models. The model building ("modélisation") of computationism (computer-oriented model) is quite different from that of connectionism.

Not to lose ourselves in hyper-sophisticated details this approach.

The joint grasping of problem situations.
Cadet refers to *E. Bonabeau/ G.Theraulaz, Intelligence collective*, Paris, 1975.

Some animal groups adapt their collective behavior to the changing situations in their environment. But where it is notable that any "central organism" (whatever that may be) or any "leading figure" are absent.

1. Clearly, such group responses are "intelligent.

2. but that "intelligence" is clearly "collective" insofar as it is not concentrated in any member of the group or subgroup.

At most, in such communities one finds some "specialization" (concentration of intelligence) in some individuals. Think of the worker and guard bees in a bee's nest.

The animal "analysis" (grasping) of the situational problem (e.g., a foreign insect invades the nest) along with the "intelligent" responses apparently spring from an information - exchange process between the individual (insofar as this term is appropriate here) members.

Final sum.
On closer inspection, it is clear: there is indeed an information processing process.

The "intelligent".
The group, i.e. the members-in-interaction, "floats above" (*note:* out of the morass of information details). What in French is called 'émergence'. In other words: the group controls the situation.

Distributive structure.
The group collectively stands or falls with the individuals who each understand the situation (partially or completely?). In other words: the information is spread among the individuals. De-individualized' however.

Note -- One also calls connectionism "neuromimetic. The group members resemble the neurons that each separately but within a network underpin our perceptions/ sensations or our cognitions.

The author refers to a pioneer: *K.S. Lashley* (*In Search of the Engram*, in: *Psychological Mechanisms in Animal Behavior*, London, 1950, a text that did not resonate until thirty years later.

E.O.   M.   40.

Neuronal network.

Since 1960 (especially since 1985), computer scientists (USA, Japan, Switzerland among others) have been experimenting with a new selective type of ordinators.

1. *Model.*

The human brain consists of neurons and neuronal centers, collectively a neuronal network of about a hundred billion neurons in constant interaction. They process in part what the mind activities to process. If only by substantiating.

2. Original.

Whereas the established computer has a program (microprocessor), the neuron network simulating ordinator does not. In the absence of the classic program, all that remains is a set of elements - artificial neuron simulations - which interact with a sensitivity threshold that is susceptible to change by means of electric currents.

Appl. mod.

One gives to that new type of computer as an instruction "Look up the word cookie in a text."

The computer reacts somewhat like a human: "If (the more) a word is similar to the one searched for ('cookie'), then (the more) the network gets excited (electrically, of course). Until it falls on 'cookie'.

Proprietary algorithm.

Computer people are used to the algorithms but the typical algorithm of the neuron network has its own selective definition (and comes across as eccentric at first).

Robotics.

'Robot' (Czech) meant 'man of art'. Now it means 'working machine'. Robots that artificially 'look' (at 'cookie' e.g.) or edit words are served with the new type of ordinator.

Man and Machine.

Cedos, Cerveau humain ("*Maman, enco un miscui*"), in: *Journ.d.Geneva* 10.12.1990, has the following caveat to this.-- A "two-year-old baby recognizes in an instant a 'cookie' ('miscui' = 'cookie') that barely shows its edge in the package.

As an aside: so does a dog! - So far, even the most powerful computer doesn't succeed in that. Explanation: A baby (a dog) needs only a minimum of observation data (mind as intentionality). A computer always needs the full observation data because it only has that dose of mind that its makers put in it.

In other words: intentional systems, if need be - thanks to 'flair' - exceed the poor data of perception. With what? With 'spirit' (even a dog has some of that 'flair').

E.O.   M.   41.
Semantic Networks.

A.I. has difficulties with language use. In this regard, it is worth briefly elaborating on "semantic networks," as *J.Fr. Dortier, Les sciences humaines*, Auxerre, 1998, 224, outlines them.

---

animal

Ulla (girl) dog (Trésor)

cat (pasha)

ball meowing

stuffed animal
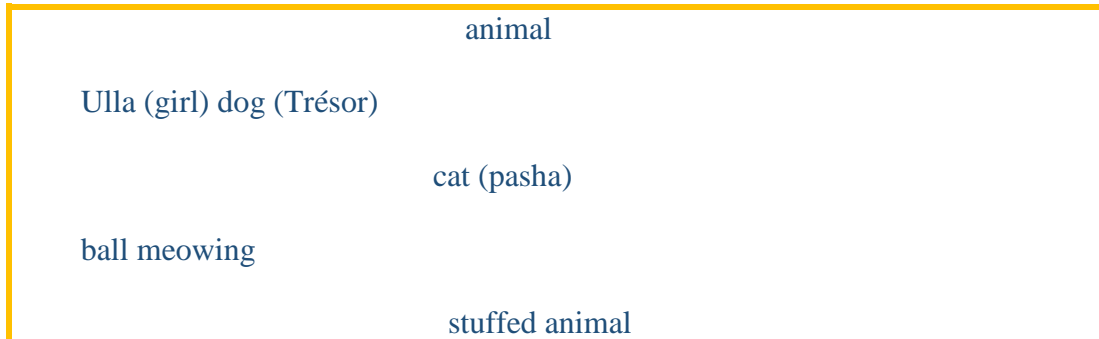
Semantic (referring to real things) networks represent the meanings of a conceptual content insofar as it refers to a collection of data.

The semantic graph above depicts this. The nouns above fill in the 'labels' (also: nodes). The interstices give way to relations called 'links' ('links').

For example, "Ulla loves an animal". "Trésor is an animal". "Ulla plays with the ball". "Pasha is an animal". "Pasha plays with the ball". "Pasha is a stuffed animal". "Trésor doesn't like the cat". "The cat meows". E.d.m.. This makes up a mini-system.

The schedule.

When one looks at the table of meanings ("insights"), what follows,
1. The possible meanings are quasi-grenegeless (holistic aspect) in number. In what contexts can the 'labels' (nodes) not occur? In what contexts do the relations not fit?

2. Immediately there is "émergence," the showing up, of new insights. Thus e.g.:
 a. *reasoning*: "If Pasha is a cat and cats meow, then Pasha meows";
 b. *new links* "Trésor plays with Ulla"; "Ulla hears the cat meow".

Connectionists see in such a network a picture of the network of neurons that is our brain. With caveats:

a. the possible relationships quickly force the consideration of a huge number of dates;

b. a subset of relations requires caveats: "The dog doesn't like the cat" is not a universally valid statement (there are cats that get along with dogs;--which betrays a semantic nonsense, which is in blind faith in the universal sense).

E.O.   M.   42.

Artificial intelligence and language use.

Bibl. sample: J.-Fr. Dortier, Les sciences humaines, Auxerre, 1998, 223 ss..

The informational processing of language - think machine translation - creates problems.

a.1. The first machine translation machines - from 1950 onwards - relied on word-for-word translation.-- But that is already creating problems.-- "The girl is walking in the sand" is mechanically easily translated word-for-word: "La fille court dans le sable". But what happens to "The weather is beautiful"?

Lexicographically, in Dutch, it means "again.
1/ m.: a cut ram;
2/ v.: repellent (think weer.macht); (resistance power)
3/ m./o.: callus;
4/ o.: atmospheric;
5/ o.: lands between two ditches;
6/ adverbial: again.

Unless the computer has a semantic network and, in addition, the competence to choose among these six possible meanings, it will commit errors.

The human 'mind' grasps (semantic) meanings by understanding including word context, business circumstances, and intersubjective communication interaction. This means that, as Hegel underlined again and again at the time, the human mind does not understand 'abstractly' (understand in Hegelian parlance: not without the context).

How can the machine do that? Unless in very restricted domains suitable for computer operations.

a.2. Meanings of mind.-- If I say "The weather is nice today" with the intention of saying the opposite, how can the mute computer grasp that humor? If I say "The weather is nice today" with the intention of expressing my satisfaction, how can the mindless because mindless computer grasp that?

Note.-- Let the psychologist *Phil. Johnson-Laird (The Computer and the Mind*, FontaPress 1988) but claim that "semantic networks are the foundation of most informational theories and of most psychologies of meaning., the strong side of machines is the syntax of symbols but with its consequent weakness regarding semantics.

E.O.　　L.　　43.
De Groot : objective research and 'forum'.
Bibl. sample:
-- *A.D. de Groot, Methodology* (*Foundations of research and thought in the behavioral sciences*), 1961-1;
-- *P.Wouters, Predicting*, in: *Nature and Technology* 60 (1992): 9 (Sept.), 710/716.
 Prof de Groot is well known for his bipartisan view of "scientific truth".

1. *The cycle of empirical-scientific inquiry*.
Methodology 29/31.-- The method, copied from physics (beta sciences), involves as GG observation and as GV 'induction' (hypothesis formation), deduction of testable derivations, tests and value judgments.

2. *The (gamma) scientific 'forum'*.
Methodology 27/28. - 'Forum' in Rome was once the marketplace of popular meetings. Now it means "meeting at which experts present topics to provoke discussion about them."

De Groot: the research results (cycle) are discussed and tested by experts in the field. These make up - as in the beta sciences (physics first and foremost) - a forum that is not infallible but that is capable of correcting errors over time.
Above all, that group, the research community, somewhat like a church council, should be the possessor of the basic knowledge on which all experts agree with general agreement.
For the behavioral sciences (psychology e.g.), de Groot doesn't see that as an option.

Behold the two main conditions of real scientific progress on "scientific truth."

A kind of contradiction.
Wouters.-- The merging of a. the strict emphasis on "rationality" (understand : the empirical cycle) and b. the decisive role of the forum amounts to making "two opposite worlds" one.
De Groot himself refers to this as "his pragmatic solution."

Paradox.
Since de Groot's forum theory is not accepted except sporadically AND also since the evidence, on gamma sciences (which want to be alpha sciences with beta scientific methods), that forum theory actually guarantees more progress than other epistemologies has not been provided, forum theory itself is not "scientifically true."

E.O.   L.   44.

While - says de Groot - in physics from the empirical cycle of investigations only "scientific truth" emerges o.g. the forum, each individual and each group (school) talks one beside the other.

Significant definitions.

Here de Groot joins the significa that, starting from Lady Welby, emerged around 1900. He particularly favors the significal concept analysis of G. Mannoury (1867/1956). I.e. human science (psychological, sociological, culturological) research on human means of understanding.

The gamma-scientists talk past each other, among other things, because they use completely different definitions of key concepts (*note:* axiomatic concepts).

With the term 'fear', for example, the behaviorist thinks of externally observable (and even measurable) behavior that betrays something internal by means of traits that are observable and measurable. The Freudian psychoanalyst thinks of 'fear' as conscious emotions which he tries to experience ('understand') in order to trace possible unconscious and subconscious factors.

Both harbor different, only analogous and not totally identical definitions.

Proposal.

From a significant point of view - creating understanding - de Groot suggests using everyday language as a starting point.... Thus, the dictionary that provides the everyday definitions can provide the 'agreement definitions'. As a basis serving all gamma-scientists.

Then the various individual researchers and the schools can nominate their own definitions. On that common understanding background.-- In any case, only then can they really make forum and discuss.

"Which is not happening now".

Thus de Groot word for word.-- One sees that de Groot still lives from his contacts with the significa movement which he, before the Second World War, got to know at the International School for Philosophy in Amersfoort (now Leusden).

On his forum theory (significal understanding) emphasized since 1971, de Groot has "not had a single positive response."

Note.-- In the context of the formal-logical theory of definition, de Groot's attitude is perfectly justified. Immediately he actualizes the dialogical induction, peculiar to Socrates and Platon.

A.d. De Groot on cognition,
Bibl. sample: P. Wouters, Predicting, in: *Nature and Technology* 60 (1992): 9 (Sept.), 710/ 716.

On the one hand, De Groot is in favor of empirically testable science (graphology and mere "empathy" psychology he dismisses each in its own way). On the other hand, he considers limitation of psychology to measurable behavior without theories of consciousness "misguided imitation of physics."

The method of thinking aloud.

We know what "thinking out loud" is. By speaking aloud, the inner thought process becomes a public phenomenon amenable to empirical investigation.

This method is the theme of de Groot's dissertation, Thinking the Chess Player (1946). He himself was an experienced chess player. From 1936 he investigated his own thinking in chess. From 1938 he investigated experimentally (with test subjects) chess as a thinking process.

He found a whole series of theories (including that theory which interpreted chess as merely a kind of arithmetic) to be "unreal. For years he experimented.

Otto Selz.

In 1942 he discovered *O.Selz,* known for his "difficult books" (*Ueber die Gesetze des geordneten Denkverlaufs* (1913); *Die Gesetze der produktiven and reproduktiven Geistestätigkeit*). ((On the Laws of the Ordered Course of Thought (1913); The Laws of Productive and Reproductive Mental Activity)).

With suspicion he began the lecture (in passing : Selz fled to the Netherlands after Hitler's rise to power (1933)). But de Groot soon became a great admirer of Selz's method. By adapting his theory de Groot was able to distinguish phases in the cognitive process.

1. Inexperienced chess players think correctly but due to lack of experience - the exercises in chess - they lose a lot of time. Experienced chess players immediately see the decisive moves. The shortening stands out.

2. Advancing Depth. -- A set of possible moves is evaluated by thinking just one move further. The best probabilities are then calculated to "prove" the best possible one with even deeper analysis.

In other words, unlike many computer programs (computationalism), not every move is dissected equally deeply. Experience - practice - makes intuitive choice possible (without having to go through the whole algorithm). This is one of the main differences between the human and the machine chess player.

E.O.   45.1
(*Note: This is a new page*)

Apocalypticism and got(h)ics.

The occasion: Littleton (Colorado).
21.04.1999. -- Eric Harris (17) and Dylan Klebold (18), dressed in black raincoats and bizarrely painted, kill a series of fellow students. First Blacks and Hispanics, also "sportives. Then "whites. Then commit suicide.

The U.S. is shocked -- for the umpteenth time -- A closer look reveals that the two belonged to a group -- girls and boys -- who were fanatics of got(h)ic culture, including its music. Immediately they were openly racist.
Makeups, uniforms, Nazi uniforms and emblems,-- tattoos, piercings. Slogans like "Long live death." Fans of antichrist superstar by Marilyn Manson.

According to Carl Raschke, prof University of Denver (Colorado) a vibrant neo-Nazi culture prevails throughout the region,-- subculture then with "kids tapped for satanic rock and gripped by apocalyptic fantasies."
These are the essential facts that interest us here. Now the further explanation.

"Marilyn Manson"
Bibl. sample: V.Monnet, Marilyn Manson, iconic trouble, in: *Le Temps* (Geneva) 22.04.99, 3.

Brian Warner, under the name "Marilyn Manson", became infamous in 1996 with his music album antichrist superstar. This becomes a celebrated album almost immediately: American young people (*note:* and European ones too) make it their idol.
Characteristic: bizarrely modeled and in SS uniform, the musicians enter the stage!
From the moral side, the group is immediately condemned as "satanism.
Consequence: department store chains refuse distribution but soon there are a million copies in circulation.

Mechanical Animals, a second album immediately reaches No. 1 in the charts.
The question arises, "What does one understand by 'Antichrist' and 'apocalypticism' "? After all, many in this country know very little about this.

1. *Apocalypticism.*
Writers such as Fr. Kafka and even stronger N.Gogol situate themselves, at least in part, within the "apocalyptic.

The term has two meanings.
a. The broad (and oldest) one: "Revelation ('revelation', 'apokalupsis' (ancient Greek)) of mysterious things o.g. mantic (seer(s) giftedness)." (*C. Kappler et al, Apocalypses* (*Voyages dans l' au-delà*), Paris, 1987, 31/36).

b. "Reveal in virtue of mantic of end time events (world end - apocalyptic).

Extranatural and supernatural.

Disclosure, according to the Bible, has two roots.

Dan. 1:20 ("*seers and soothsayers*"), *2:2* ("*seers, soothsayers magicians, magicians (astrologers)*") clearly distinguish the extranatural ("paranormal") gifted from the supernaturally gifted in *Dan. 2:20/23*, where it reads, "From God is wisdom and the life force. He grants wisdom (*op.:* natural, extra-natural, and especially supernatural insights) to the wise (*op.:* revelators). He reveals ('apokalupsis'; see also *Matt. 11:25* ("*The Father reveals the hidden things*")) what is deeply mysterious and knows what is done in darkness." See also Dan. 2:45, 2:47.

The supernatural apocalyptic is rooted directly in God. The purely supernatural springs from men and spirits of all kinds. It is harmony of opposites,--contains good and evil, truth and falsehood.

Christian end times doctrine (eschatology).

Bibl. sample: *M.J. Scheeben, Handbuch der katholischen Dogmatik*, (Handbook of Catholic Dogmatics,), IV, Freib.i.Br., 1898, 898/943 (*Die allgemeine Vollendung der gesamten Creatur*), (The general completion of the whole creature). Scheeben interprets the great tradition of the Church.

Although already "appeared" (theophany as embodied) Jesus will again "appear" (theophany of the end times, a parousia) : he appeared in powerlessness but will appear in power.

The Bible, the Church Fathers and theologians are unanimous.

'Parosis' is appearance (= showing oneself) in glory.

For the purpose of general judgment (on all men) and the general finishing of creation.-- This "at the last day" or "the day of the Lord." This, as a date, is an unknown, -- the mystery of the end times. Yet there are omens:

a. the judgment on Jerusalem and Judah (*Matt. 23: 32/39; 24:1/3*);

b. the following phenomena.

The evangelization of the Gentiles

"all the nations of the earth"; with Henok as messenger (*Gen. 5: 21/24; Jud. 6; Jud. 14/ 15*) and the conversion of Jews; with Elias (*2 Kings 2:1/18*) as accompanying figure.

The wide-ranging and radical apostasy ("de-Christianization")

This on account of the 'appearance' of the evil Antichrist ("the man of sin"),--not just as a zeitgeist but as an individual,--a person who appears utterly atheistic, equating himself with God, seducing.

(***Note: This is a new page***)

See *2 Thess. 1:3/8*.-- Christ will appear precisely "in power" or "glory" to bring Antichrist to his knees.

Last omen are comprehensive, profoundly shocking events in

a. the human world (cultural revolution(s)) and in

b. nature (cosmic disasters).

Resulting in general uncertainty and anxiety.

Note.-- 'Chiliasm' is ambiguous.-- The crass interpretation says that *Rev. 20:4* ("They lived and reigned with Christ for a thousand years") means "a thousand-year kingdom of sensual pleasure." This is evidently a margin theory.

The term shows a plurality of meanings.--among these is this: the enumerated omens -- instead of coinciding -- will happen apart in time. The proponents rely on texts which, however, according to Scheeben, do not compellingly show this interpretation and are thus debatable.

Note.-- Whatever the case may be: A. Hitler launched "ein tausendjähriges Reich" in the Nazi sense. Which is yet another chiliastic interpretation.

Aleister Crowley (1875/1947).

Bibl. sample: *Ed. Brasey, Enquête sur l' existence des anges rebelles*, (Investigation into the existence of rebel angels,), Paris, 1995, 195/205 (*Les Supérieurs inconnus de l'Aube dorée*), (The Unknown Superiors of the Golden Dawn).

The Golden Dawn,

The Golden Dawn is a secret occult-magical society, was founded in 1887. Unmistakably Luciferian. W.B.Yeats (Nobel Prize in Literature 1923), Bram Stoker (Dracula), A. Machen, S.Rohmer, G.B.Lytton, Edita Montès, S.Mathers, W. Wescott (= sister of Henri Bergson) (both the latter, Mathers and Wescott) were the founders), et al - especially A.Crowley - worshipped as members "the unknown higher ones", a kind of Uebermenschen who are very powerful and terrorizing. Harmony of opposites: wise and cruel!

Crowley - in the context of the Golden Dawn apocalypticism - claimed to be "the Antichrist" and "666" (the sign of the animal (*Ps. 72: 9; Rev. 13:18*)). Rivalry over time with Ad. Hitler, he said of himself, "Before Hitler was, I am".

The Golden Dawn paved the way for Hitler and the Nazis but under World War II (1939/1945) Crowley was anti-Nazi and in this sense he delivered to Winston Churchill a talisman (protective object) "to protect England from the German bombardier."

Adolf Hitler (1889/1945).

Germany showed at the time of Hitler (and before him) magicians and secret societies that thought apocalyptically.

E.O.   45.4
(*Note: This is a new page*)

They are called "German occult groups" (*R. Cavendish/ J.B. Rhine, Elseviers encyclopedia of occultism and parapsychology*, Amsterdam/ Brussels, 1975, 70/74).

Thule.
In 1918, a very small group was formed in Munich: Thule. "One evening the members summoned the dark powers that had already taken possession of body and soul of the one about to come, the 'beast' of the Apocalypse. (...). The demons overran the room to the horror of the spirit summoners who fled, emitting cries, while their medium (*note:* an illiterate woman from the outside) uttered monstrous things."

On another occasion, their former secretary (she too was murdered by the Communists) confirmed that the one about to come would be at once the master and the scourge of Germany and Austria.

When Hitler joined the group - during 1920 - the Thule members received him as (...) an antichrist (,...) who must come before Christ and carry on the destruction that precedes the era of peace and harmony (...)." (*E. Brasey, Survey*, 251).

"For three years - from 1920 to 1923 - Hitler was 'initiated'"
This in the axioms of Thule by three former members (D. Eckardt, A. Rosenberg, K.Haushofer). Eckardt became one of the seven founders of the National Socialist Workers Party in June 1923. He said at his death, "Follow Hitler. He will dance but I wrote the music". Again, as in the Golden Dawn, the unknown higher-ups.
Up to there something about Adolf Hitler as an apocalyptic figure.

2. Got(h)iek.
In short, Gothic is the art that fits the apocalyptic.
Bibl. sample: H.Hr., Mystery and Detective Stories, in: *Encyclopaedia Britannica*, Chicago, 1967, 15: 1125/1129.

The author refers to *Dorothy Sayers* (1893/1957), ed., *The Omnibus of Crime* (1929).

Mystery Literature.
The unknown (mystery) that simultaneously attracts (fascinosum) and thrills (tremendum) - cfr Rud. Otto - is the object of mystery literature.

Initially it is mysterious wonders, horror, ghosts spirits, -- mainly of extra-natural (and sometimes supernatural) origin. Next to that type, later more "rational" unknowns emerge as objects: riddles, enigmas.

E.O.   45.5
(*Note: This is a new page*)

Fantastic Literature.
Another name that is common for "mystery literature" is "fantastic" literature and art.

Disclosure forms.
Grievance stories. Histories of secret societies.-- Diplomat intrigues. Detective stories.-- Science fiction.-- Such are the types that the author lists.

"The Gothic Tale". - In the XVIIIth century, the "got(h)ic tale" emerged.
With its demons, vampires, Arab or otherwise, churches and castles in ruins, subterranean passages. The Castle of Otranto (1764) was the first work -- a horror story -- in that genre,-- by Horace Walpole (1717/1797).

A whole series of writers and artists delve into that type of art. Thus e.g. Frankenstein (1818). by Mary G. Shelley : what stands out in it, is the sham scientific slant.

The romance.
"In the XVIII century, Romanticism fell in love with Gothic : vampires fitted perfectly into this formula. Goethe (1749/1832) wrote a few vampire verses. Byron (1788/1824), Sauthey, Gautier (1811/1872), Baudelaire (1821/1867) followed." (W. Koeser, Magic (Science of the Future), Amsterdam, 1976, 122).

Note.-- Some of the romance can indeed be characterized in this way.

Note.-- H. von Kleist u.a., *Geister, Gespenster und Vampiere* (*Die unheimlichsten Grusel- und Spukgeschichten der Weltliteratur*), (Ghosts, Ghouls, and Vampires (The Scariest Scary and Haunting Stories in World Literature),), Munich, 1978, offers texts by H. von Kleist, E.T.A. Hoffmann, N. Gogol, W. Heuff, Ch. Dickens, E. Allan Poe, I. Toergeniev, M. Twain, O. Wilde. Which shows that the Gothic belongs to world literature.

M. Jarvis et al, Echoes of Terror, London, 1980, offers texts by Dickens, Halifax, Poe, Stoker, Henry, Mudford, Marryat, Lewis, Thackeray, Jacobs, Saki. The advantage of this work: it offers illustrations by artists that make you "see" the bizarre world of the Gothic.

Note.-- Besides Edg. Allan Poe (1809/1849) and Bram Stoker (Dracula) we also mention H.P. Lovecraft (1890/1937) who engaged with Abdul al-Hazred, Necronomicon (a very bizarre text from the VIII century in Syria), among others. Cfr *P.R. Michaud, Le necronomicon*, Paris, 1979.

Symbols and myths, ballads, mystical texts,
Although these are not essentially "gothic," they do exhibit gothic aspects in that boundary blurs are discussed.

E.O.   L.   46.
(*Note: This is a new page*)

Comprehensive and abbreviated will process.
Bibl. sample: *Fr.S. Rombouts, General psychology*, Tilburg, 1957-2, 167/ 176 (*The wanting*).

The author refers to *Dr. Rhaban Liertz, Wanderungn durch das gesunde und kranke Seelenleben*. (Wandering through the healthy and sick life of the soul), Liertz examined the faculties involved in a concerted action.-- but see here his process description.

1. ***Normal course of a complete will process.***
Given.-- "There is knocking." Asked.-- Undoing the aspects. The ear.-- "There is a knock on the door". The imagination.-- "There is someone at the door who wants to enter". The 'nature:-- "Then there must be 'called in'".

The mind.-- "That is so. But one only calls out "inside!" when one has decided to receive the visitor. My motives are: "I have time now" or "It will do me good to interrupt my work for a while" or "No creditors come at this hour" or "There may be a good job to do".

Note.-- Note the global of the mind, which grasps the sum of the possibilities (summative induction).

The will.
"It will happen." Immediately a message for the sensual striving: "Occupation drive. Charity. Self-respect. New avarice. On!".

Sense of purpose.
1. Zealotry: "Hello! Voice, call 'in'". **2.** Charity: "But kindly, please!". **3**. Self-respect: "But also a little briskly. That impresses!". **4**. Curiosity : "A little soon!". The voice.-- "Inside!!!

Note.-- Thus Liertz pleasantly illustrates the freely willed, deliberative, fully responsible act of will in its aspects.

2. ***Shortened course of a full will process.***
As in the thinking process so in the will process: shorten exercises.
The ear.-- "There is a knock on the door". The imagination.-- "At the door someone". The 'nature'. -- "So there must be a call 'inside'". Sensible striving.-- "Of course! It is taken care of. Voice, calling out! The voice.-- "Inside!"

Note-- Sense and will seem to be in hiding.

"Such abbreviated acts are most numerous in everyday life. The same event has repeated itself so often that" after (A) a stimulus through (B), the organism under the inspiration of the mind which remembers (memory which also influences the will), in (C) performs a will act and eventual act. In an 'intuitive' (abbreviated) way.

E.G.   L.   47.
(*Note: This is a new page*)

Note.-- Rombouts claims that in the abbreviated process of will which he, following Liertz, presents as incomplete, reason and will are "switched off" as the higher faculties.

With that we may agree for a number of cases but we argue that in a crowd of other types of behavior (deeds of will) reason and will are just withdrawn. We have, for the proper understanding of what we mean by the citation of Rombouts' text, even made it immediately clear that.

The thinking and immediately the will process from long-winded to abbreviated.
It was noted that wanting is always intrinsically intellectual striving, wanting in the real sense at least. Shorten the mind, then shorten the will.

1.1. Phenomena, object of the phenomenological mind, are summarized o.g. by mind formation (exercise) and grasped at once, abbreviated, as given.

1.2. Signs are first of all signified at length: one goes through the deeds of thought from what is directly given until one grasps what it indicates, means. Through repetition (memory), the sign becomes "translucent" and one grasps what lies behind it, intuitively-abbreviated.

2.1. The mind as a comparator grasps distributive and collective similarities and correlations. Yet the tropes (metaphor/ metonymy and synecdochs) prove that comparison is intuitively -shortened.

2.2. The comparative mind arrives at judgments, which express the subject including the saying. Clearly, after experiential contacts with subject and proverb the grasping of relations proceeds intuitively-short.

2.3. The comparative mind carries out 'difficult' reasoning algorithmically, i.e. in steps which follow one another and are separated. Let us think of a 'difficult' maths problem or a text that requires a lot of thought. After sufficient repetition, practice, our mind carries out such reasoning 'fluently', 'easily', intuitively-shortened.

The basics.
The basis is apparently the mind as summarizing power. This shows itself clearly and in the summative induction (summarizing after an algorithm of samples) and in the summative deduction (summarizing in advance all possible applications of a rule on the basis of intuitive-abbreviated insight).

In other words: reason and immediate will (striving for reason) proceed both tediously, (algorithmically, step by step) and non-exhaustively (abbreviated).

E.O.　　L.　　48.
Otto Selz : Thinking psychological method.
Bibl. sample:
-- B.Palland et al, Leerboek der psychologie, Groningen/ Djakarta,1954, 371/396;
-- P.Lindworsky, Experimental soul science, Antwerp, 1935-5;
-- Fr. Z.Rombouts, General psychology, Tilburg, 1957-2, 129/ 133.

One calls the Würzburger, Cologne, Mannheimer, and Amsterdam streak, in which Otto Selz is situated, "the psychology of non-attentive consciousness."

'Non-sensible' means 'non-sensible-insensible! For the phenomenologists since Husserl speak of a purely intellectual contemplation.

The method is 'cognitive' in the sense that although it proceeds introspectively and retrospectively, it has made this method experimental. Object par excellence: thinking and willing as the higher phenomena of consciousness.

The method.
The core is the "Given/Asked" pairing. Psychologically trained proefpersoon are presented with stimulus words (Given) with the task (Asked) of responding to them with distributive and/or collective notions.
Thus, e.g.: **a.** assignment: the whole; **b**. incentive word: a branch. -

Note -- The answer with declaration of reaction time (which turned out to be of lesser significance). Here is, the answer: a tree, e.g.. Or still: **a.** assignment: the collection; **b.** stimulus word: a tiger. Answer: a predator.
One sees that similarity and coherence are decisive.

Then followed a communication, in which the test subject. described briefly or at length his inner experience immediately after observing the task. The emphasis was on whether individual or schematic representations of a non-abstract nature had played a role in finding the answer.

Note -- The stimulus word as a phenomenon and the assignment as a requested response were written on separate sheets with the typewriter. At the beginning, the sheets were covered with a cardboard of equal size whose center was fixed by the test subject.

After a warning signal, the test leader, using the word "now," pulled away the covering cardboard while simultaneously initiating the "stopwatch" (stopwatch that does not emit a ticking sound) with the other hand,--not to make the test subject unnecessarily nervous by the ticking: the proefpersoon was exhorted to "take time" to think. It did not come down to speed but to thinking.

E.O. M. 49.

Appl. mod..-- "By 'productive thinking' we mean (...) 'thinking in the service of certain tasks; which is essentially an act of will.'" (*J.Lindworsky, Experimental Soul Science*, Antwerp, 1935-5, 280). Cf. *O.Selz, Zur Psychologie des produktiven Denkens und des Irrtums* (On the psychology of productive thinking and error), (1922).

In other words: thinking in the true sense is purposeful. Following (A) a GG, a stimulus word, a task is expected via (B), the thinking faculty, (C). There is no question of blindly working 'association' and 'reproduction' (except in lower thought responses).

Assignment: entire.
Stimulus word: glowstick.
Communication: "As soon as I had read the stimulus word, which I understood without paying much attention to its meaning, the word 'lamp' was already there. - Immediately afterwards I saw some vivid fragments of a lamp to which I tested whether the solution was correct. That test consisted of seeing a mantle in the lamp. The image was only very fragmentary and only appeared after the solution.
Then I responded".

Note.-- Thus, the sensory - visual representation (image) "glow-in-lamp" had, after thinking had found the task, the role of verification. The generalization was "seen" afterwards.

A. Willwoll, a student of K. Bühler, the child psychologist, noted that "sensory images" also inhibit the thought process.

Assignment: collection.
Stimulus words: landing area, staircase landing....
Communication: "At first I had the impression that it was difficult to start something with these words. Then it struck me that there had to be something in common. At the same time I had a clearly defined image of a landing place with people disembarking and a staircase with no persons on it. I constantly had the image of a movement in front of me and I thought that I could only look for and find the both encompassing concept in that direction. Throughout the course, images of the landing of a ship in which I myself had landed surfaced. They were as vivid as in a painting so that I clung to them throughout the course. (...). The visual moment was so strong that I had to tear myself away from it by force in order to come to an understanding.

Note -- The subject was a writer, used to seeing everything in images: "I don't like to analyze my images but rather let them work on me as a whole," said the lady. This shows that image-bound people -- children, for example -- can be hampered in their thinking process and lose sight of the GG and immediately let go of the GV. Willwoll: "The image, if and only if it is put in the service of the GV beforehand, becomes an aid to thinking." What Selz had always emphasized.

E.O.   L.   50.
The human mind. And its brain.

Bibl. sample: B.Palland et al, *Leerboek der psychologie*, (Textbook of psychology), Groningen/ Djakarta, 1954-5, 375v..

It is known that the brain, in particular, is partly responsible for the functioning of thinking. This has been established after brain operations on patients who are not too old.-- Frohn (Würzburg School) examined 12-14 -year-old deaf-mute children for their thinking abilities.

1. *Storyline.*

"Hansel"-- Hansel put father's hat on his head and took father's walking stick in his hand, "Farewell, mother! I am going far far away now" (said Hansel).

Reproductive response.

For example, "Father's hat was long. Father's hat weighed on the head. The storm, air, father's hat gone. Father's hat was dirty. Hansel wiped father's hat".

One sees: such children are not business. The phenomenon does not penetrate unless as an occasion for fantasizing. They react with representations (images) of a sensory - visual nature. Not with (abstract) concepts.

2. *Stimulus word.--* Two methods.

a. *Series formation*.-- Stimulus word: butterfly.

Answer: "The butterfly is flying around. The butterfly is sitting on the flower. The butterfly has four legs. The butterfly has two wings".

There is more than singular images (the butterfly). A vague-general scheme (not yet abstract concept) dominates the answer. Law already indicates a sense of coherence.

b. *Free combination*.

Stimulus word: church.

Answer: "The boy walked into the church. The boy talked about the boy". There is no coherence here. The phenomenon of "church" presented hardly penetrates.

3. *Five words*. -- Stimulus words: thief, ladder, window, money, clock.

Answer, "The thief stole a lot of eggs and money. The roofer puts the ladder on the roof. The roofer wants to repair the roof because it has a gap. Mother polishes the windows. The windows are clean. The man is working in the factory. (.,...). The children read the words, and one sees what they pulled out of their 'tubes'! The coherence of the words almost escaped us. Only loose images of memories come loose.

Note -- Deaf-mute children, if treated methodically (one teaches them to pay attention to similarity and coherence), grow by leaps and bounds. Palland refers to *Dr. A.Nanninga-Boon, Het denken van het doofstomme kind* (The thinking of the deaf and dumb child), Groningen, 1934,--work that deals with the woman's four-year-old son.

E.O.　　L.　　51.
The human mind as I.
Bibl. sample: B
-- *Palland et al, Leerboek der psychologie*, Groningen/ Djakarta, 1954-5, 373v.;
-- *S.Rombouts, General psychology*, Tilburg,1957- 2;
-- *J. Lindworsky, Experimental Soul Science*, Antwerp, 1935-5, 302/305.

Osw. Külpe (Würzburg School).

Külpe (+1915) experimentally investigated higher consciousness phenomena through thinking aloud. (A) A thinking task (e.g., "part of," "copy of") is presented as a stimulus to (B) a well-trained singular representations and vaguely schematic representations of abstract concepts distinguishing) pp. who (C) immediately after completing the task, reports on the lived consciousness phenomena (especially the triad "singular/ private/ universal" consciousness contents)...

1912.-- O. Külpe delivers a lecture, "*Ueber die moderne Psychologie des Denkens*". -- See here how he situates the self as an active-thinking subject.

a.1 *Non-sensory consciousness contents.*

There are, of course, in the foreground of our conscious life, individual impressions ("pictorial" images or representations): e.g., when the pp. thinks of a "part of" a tree, he imaginatively sees the tree at his own house in bloom or he vaguely remembers a diagram of "the tree" in a botany textbook.

But - and Külpe underlined this - there are in our mind "unrevealing" (meaning: not sense-perceiving) contents of consciousness, because our mind "sees" (intellectual contemplation) connections of resemblance and of coherence without there being any sense images or vague schemes. The sensory contents play at most a subordinate role.

a.2. *Troubleshooting diagram.*

Thinking is lived through by the pp. as grasping a task (GG and GV): the stimulus is not merely itself; it is stimulus to active ordering of data; it is task, assignment. No mere reproduction of what is.

No mere blind association of e.g. mere representations of a sensory-visual nature: the connections of resemblance and coherence are sensory-insensitive. But our minds as minds "do see them". In what phenomenologists call "intellectual contemplation or insight".

E.O.   L.   52.
b. *Our mind as I.*

The responses to the thought stimuli are lived through by the pp. as deeds, actions, of an active I, i.e. the person they are gifted with self-consciousness.

Note.-- The pp., precisely because they are introspective (understand: by paying attention to themselves while thinking answers (reflective)), experience themselves as the own witnesses of their activities.

Reception.

The reception shows it: the Cologne school (Lindworsky, Frohn), the Mannheim school (especially O.Selz (first in Bonn then in Mannheim)), the Amsterdam school (Kohnstamm) further elaborated this achievement, which finally conceives 'I' as 'person'.

Lindworsky on the self.

This distinguishes at least three contexts of the term "I" in language use.
1. "My name is Anke Sorgeloos. I live in Leiden. I ...".
Lindworszky refers to that verbiage as "social," The Identity Card!

2. "I am a people person: I love cocooning. At night with my husband and my children. Cozy".
That's the 'personality language use! 'I' as far as a set of traits including cocooning.

3. "I think the whole thing that goes with 'branch' is the tree. That's 'pure' me. Thus Lindworsky. He means - he says - the subject of psychic deeds.

Note.-- One would better speak of "thinking" I.

Note.-- *G. Bolland, Hrsg., G.A. Gabler's Kritik des Bewusstseins*, Leiden, 1901, 56 (*Anmerkung*).
Bolland distinguishes "the pure self" in Hegelian language. He defines:
a. every natural and concrete 'I' - I, thou, she, he -- involves many different contents of consciousness;
b. to arrive at the abstract 'pure' I "I only have to say (of myself) 'I' but in such a way that I leave out (abstract from) all contents."

In other words: thinking must also fall away!

Lindworsky,-- The author characterizes "I" as the global subject who is moreover also characterized by identity throughout the acts and phases of life.-- He specifies: our I-experiences are manifold! I dream. I was hypnotized once. While I sleep. I am going through an identity crisis.

I once suffered from incipient depersonalization. Psychiatrically admitted and cared for, they said I exhibited "more than one personality."

In other words, language that includes "I" is fodder for many discussions about "the" I.

E.O.　　M.　　53.
The concept of mind contradicted.
Bibl. sample: J. Scher, ed., Theories of Mind, New York/ London, 1962.
Thirty-five intellectuals (virtually all of them professionals) contribute.
1. Mind as brain (physiologists, biochemists, behaviorists of behaviorist stripe).

2. Mind as 'participation' (mind as human, psychiatric and cybernetic stakeholders see it).

3. Spirit as Method.
Behold the three parts of this foliander.

We draw attention to *Cliff. Geertz* (prof anthropology Univ. Cticago), *The Growth of Culture and the Evolution of Mind*, o.c., 713/740.

In the history of behavioral science, the term "mind" has provoked a contradictory interpretation.

a.1. *Spirit as reprehensible.*
Those who practice behavioral science with the methods of physics dismiss such terms as "insight, understanding comprehension, image, thought, feeling, reflection, fantasy, -- consciousness etc." as "mentalistic" i.e. burdened and laden with all the sins of the subjective nature of consciousness.

After all, consciousness escapes almost completely from the grip of physics and its human science derivatives. It is not "materially tangible." Too fleeting.

a.2. *Spirit as a basic concept.*
For those who - in addition to the physicalist point of view - also reach a biological ('organic') and even more so a human point of view, the term 'spirit' applies as a cautionary term. They emphasize the far-reaching consequences for the physicist (// physicalist) standpoint, theoretically and methodically.

They emphasize the boundedness, the radical finitude of physics and, if one gets to the higher concept of man, even of biology to understand a phenomenon such as "consciousness" and "mind" as they are.

b. *Spirit as an extraordinarily useful concept.*
Geertz: there is no substitute for that term! He regrets the state of affairs at the time With few exceptions, "mind" functioned not at all as a scientific concept but as a rhetorical flag, -- even when, as in some scientific centers (1) the term "mind" was banned.

The term served as an occasion: to accuse of mechanism (physicalism) or of subjectivism. It asks to be interpreted scientifically.

E.O.　　M.　　54.
(**Note:** *This is a new page*)

Propositional attitude.
Bibl. sample: *C. Sanders et al, The cognitive revolution in psychology*, Kampen, 1989 (esp. 147vv.).

The term "propositional attitude" may have come from B. Russell. It is one of the basic concepts in modern (intensional, i.e. conceptual) logic as it was founded, in the wake of G. Frege (1848/1925) and Rud. Carnap (1891/1970), was founded by Stig Kanger, Jaako Hintikka, Saul Kripke.

1. *Folk psychology.*
What psychologists call "naive or commonsense psychology" thinks in terms of "propositional attitudes: Thus: "Inge did what she did because/ because she longed to become an aesthetician and, moreover, was convinced that only by doing what she did would she achieve what she desired."

Note two propositional attitudes: "She desired (to become an aesthetician)" and "she was convinced (of her task)." These are two mental states that culminate in a fact expressible in a proposition (sentence) (direct or lateral speech).
Naive psychology is mentalistic.

Note that the terms "because /because" and "through to" are causal terms indicating that mental states cause something or are themselves caused in the context of the physical world in which we live.

2. *Cognitive psychology.*
Willingly or not, scientific psychologists depart from the data of common sense. They do, however, want to detect the "underlying causal" mechanisms of it.

A mental state with propositional content.
Such a phenomenon involves an attitude that introduces a sentence, and this is an intentional sentence, i.e. a sentence whose truth value depends on a situation (context, 'frame').

Structure.
Ap.-- A = attitude. p = proposition.

Thus: "I know that Inge is my sister" (topically true). Or : "I know that she is coming tomorrow" (not topically true).-- When replacing 'Inge' with 'Alice', the propositional attitude can be false : that depends on the context aft i.e. on additional information.

Kripke model. -- "If the truth conditions (total context) of Ap are known, then the meaning (extent, extensional) is known". Because then that Kripke model is the expression of a representation, i.e. a representation of data.

E.O.   M.   55.
(*Note: This is a new page*)

The concept of intentionality

Let us begin with an ancient fact: Platon spoke of the "noble yoke", (which unites mind and matter, object), and Aristotle, considers the relation between mind and object of mind to be the relation par excellence. In Augustine's wake, the scholastics (800/1450) developed their theory concerning the "intentio", understand: (the orientation of) consciousness.

1. *Intentio prima et secunda.*

Ch. Lahr, Logique, Paris, 1933-27, 494 s..-- "I pay attention to "that thing over there." That is the initial, spontaneous orientation of my consciousness (intentio prima).

"I'm paying attention to 'that thing over there'." This demonstrates a second attention or focus of my consciousness.

Concepts, judgments, reasonings are results of second attention (on introspection, reflection, supported). Are intentional "things" (realities). Mental data.

2. *Cognitive processing.*

Bibl. sample: *C. Sanders et al, The cognitive revolution in psychology*, Kampen, 1989, 60vv..

a. Fr. Brentano (1838/1917).-- Of the Austrian school.-- For his empirical psychology, consciousness is "experience," i.e.:

1. sensory (attuned to extramental data) experience and

2. 'intentional' (attuned to mental data) experience. The latter exhibits the duality "act/content". Thus: "I see (the color) red" (seeing = psychic; red = extra-mental physical). "I think (of something all the time)". No act without content.

Note.-- For Fr.Brertano as an empirical psychologist, that content is essentially within psychic (not outside the body and mind). Psychology, for him, is essentially focused on the reflective.

b. *Cognitive*.-- The "intentionality" is, of course, a key concept.

But the duality "act/ content" has become the duality "organism/ propositional content". J. Fodor: "Proposition is the content of a sentence". Consequence also intentionality is understood by many as a mental state and defined as propositional attitude.

In which often the I: the subject, which is conscious, is neglected and replaced e.g. by "intentional system" (D. Dennett).

Whether or not propositional content refers to an extramental reality is an object of intense debate when it comes to defining the concept of psychology (the bubble of the modern self).

E.O.   L.   56.
(*Note: This is a new page*)

Mental events in our physical world.
Bibl. sample: F. Buekens, The philosophical project of Donald Davidson, in: *Tijfschr.v.filos.* 51 (1989): 2 (June), 316/329.

Intent is to give a sense of the beginnings of the new philosophy of mind. We tie in here with D. Davidson (b. 1917), prof Univ. of Calif.

Scenario.
GG.-- Elke was expecting at the beach her friend Betty, who apparently forgot her appointment. Elke then just walks around sunbathing.

Note -- To "explain" Elke's behavior from her inner self.

Intentional description.
a. The phenomenon is first of all external behavior. Publicly accessible.
b. But the phenomenon is apparently mental at the same time.-- Both aspects run together,--are but to understand one including the other.

Note.-- One sees that the black box (the inner or "intentional") is not neglected as in behaviorism.

In other words: Davidson wants to understand external, "physical" behavior from the reason or ground (explain) but that reason or ground is at least minimally and essentially inner. Thus e.g. not deterministically physical (as e.g. Hume still believed).

Comparison.
The ancient skeptic Karneades of Kurene (-214/-129), of the Third Platonic Academy, claimed that "there is something in our power. Not all that is event is caused by fate (as Chrusippos (-280/-207; stoic) argued). Some events we cause ourselves. Thanks to our free will.
This means that not all events - 'events' in Davidson's parlance - are 'fatal' (determined). There are unpredictable 'events'.

In other words: the "propositional attitudes" (inner acts of thought and will) of Elke are
a. hers (she agreed with Betty) but
b. also those of others - such as Betty, who has an appointment with her. That she is just walking around sunbathing is not because of Elke: she has miscalculated. Her external behaviour - in the midst of our physical world - is describable in terms of "physical events" (she is sunbathing on the beach, 'just like that'), publicly perceptible - but also and especially as an explanation in terms of "intentional acts" (meeting on the beach as the first act; just waiting to sunbathe as the second act), which have a causal effect within our deterministically running world.

E.O.   M.   57.
(*Note: This is a new page*)

Personality and cognition.

The common sense (folk psychology) does not assign a real 'personality' to a machine, even a computer. It does state that e.g. an animal (the dog e.g.), given its consciousness, can have a personality. It is only in humans that the concept of 'personality' comes to full fruition.

Let us dwell on this problem for a moment on the basis of M. Huteau, *Les conceptions cognitives de la personnalité*, (Cognitive conceptions of personality,), Paris, 1985.

Huteau: "There are no general theories concerning personality" (o..c., 19). This although there are many theories on the subject.

Definition.

"If a class of behaviors exhibits as a common characteristic a steadfastly coherent (cohesive) and individual. Unity, then it betrays a personality."

Evolution of psychologists.

Huteau distinguishes two types.

1. *Dynamic psychologies.*

The life of the mind (affectivity) and the motives, resp. drives determine the (un)conscious life of someone to such an extent that a firm individual coherence in his behaviour becomes visible. In other words: a person lives in order to realize well-defined values (goals, aims).

Note.-- Who does not think here of Ed.Spranger (1882/1963) with his "If one knows what values someone aims at, then one knows with whom one is dealing". Simple example: how many women, then working-class women, do not live from and for their family?

Not to mention W.Stern (1871/1938) whose psychology revolved around *Die menschliche Persönlichkeit* (1918).

2. *Cognitive psychologies.*

Since + 1950.-- A person exhibits a class of modes in which he absorbs and processes information according to a invariably coherent and individual "program," to which he remains faithful as nearly as possible.

Note.-- Osw. Külpe (1862/1915) found that practiced pp. had ánd sense- contemplation and sense-uncontemplation. W. Wundt (1832/1920) held that sense-unspectacular 'things' were 'nothing'.

Does this not show that cognitively Külpe and Wundt must be counted among two very different cognitive personalities? 'Reality', 'similarity/coherence', 'relation' are in themselves sensory-unconscious: how then did Wundt treat these basic cognitions?

E.O.	M.	58.
Normal, paranormal, abnormal "mind

Beginning with a sampling, *Kay Redfield Jamison, De l'exaltation à la depression* (*Confession d' une psychiatre maniaco-depressive*), Paris, 1997 (// *An Unquiet Mind*, N.Y., 1995).

Author is prof of psychiatry at the School of Medecine at John Hopkins Univ. At fourteen (1961), psychosis began. Gradually. "I was 16 or 17 when I realized that my fits and outbursts were exhausting my surroundings and all the more so since, after long weeks of delusions of grandeur and sleepless nights, my thoughts degenerated into real and disturbing gloom" (o.c.,41).

She had three close companions - "nice guys" among whom two had manic-depressives in the family and the third had a mother who committed suicide. "All three on their way to manic-depressive states."

The Syndrome.

Throughout the book, she goes through the syndrome intermittently. Here at the beginning.

a. Manic: "Himmelhoch jauchzend". - "I was running around in all directions.... (...). Brimming with plans and overflowing with enthusiasm.(...). Went out night after night. Was active all night.(...). I felt supreme".

b. Depressed : "Zum Tode betriibt". -- then suddenly: "After that, the basis of my life and of my mind gave way.(...). My thoughts became extravagant. I read and reread the same text only to find that I did not remember any of it.(...). Dead tired I woke up this morning.(...). Obsessed with death'. (o.c., 42/44).

Lithium ingestion all the time.

Going at rest. Then to work hyperactively again.-- The curious thing that should make us all think: writer claims -- and she knows the intellectual middle excellently -- that "there are so many profs who are manic-depressive" at higher institutions.

What exactly is 'mind', spirit, with these people who may, in lucid moments write genius texts (writer says it) then abscond into the depths of the deranged mind?

M.V. Kline, dir. Institute for Research in Hypnais (Valhalla, N.Y.), cites *W. James* in his article: *Mind* (*A Descriptive Operational Definition*), in: *J. Scher, ed., Theories of Mind,* N.Y./ London, 1962, 661/ 673. James posed the question of "mind" when borderline experiences -- drunkenness, drug use, nitrous oxide hits,-- Kline adds: dreams, hallucinations, hypnosis and so on occur.