

Cees P. van der Velde, April 1994

Introducing:

A Method for Linguistical- Psychological Language Analysis (LPLA)

Why psychological language analysis?

Language is an natural instrument for communication. Communication primairily serves for the exchange of information between individuals or systems.

Obviously, language as a faculty is complementary to our abilities of non-verbal communication. One of the important differences between the two is that (verbal) language is controlled by a lot more rules and more precisely defined expressions, which in general enables one to a less ambiguous way of refering to things - even about matters that are not directly observable: that are absent in the immediate here and now, are abstract, complex, mental, etc.

In general, we manage rather well with our natural language abilities in coping with most every day situations of communication - with exception of an occasional misunderstanding. It becomes quite an other matter if we make higher demands on the transmission of information: e.g. in important social issues, in politics, jurisdiction, science or in business management.

In fields of science like psychology, sociology and jurisprudence these demands are particularly high because phenomena that are studied in these areas often are of a social, cultural, normative, ethical, moral, implicit nature: so that the current information here is not always empirically founded, and may be poorly structured, scarcely formalized, disorderly, incoherent, logically inconsistent, ambiguous, 'fuzzy', etc.

Therefore, *language analysis* can be quite useful in common situations of social interchange - and particularly in practising psychology or law. There are three important reasons for using language analysis:

1) Collecting knowledge of the world

Language utterances, as far they as they convey any meaning, always reflect information about some state of affairs in the world. This information can be useful to us, provided we can identify it precisely and than determine whether it is reliable enough.

2) Predicting behavior

Sometimes we want to know how a person will act in the future: perform on a job, react on certain stimuli, etc. Because behavior is very much shaped by drives and motives - that is thoughts and feelings - we therefore need to know how that person thinks (associates, reasons, memorizes, phantazises, evaluates, preponderates, plans, decides, etc.). And feelings and thoughts can be expressed in language - eventually with help of some external encouragment. Through careful language analysis we can assess data from 'within' a person (speaker/ writer), like his or her experiences, preferances, wishes, goals, plans, intentions or tendencies. From these we may derive *predictions* about his or her future behavioral or emotional responses on certain stimuli.

3) Predicting effects

On the other hand we sometimes want to know what effects are to be expected of language utterances - of ourselves or others - on some listener or reader. E.g. to be able to influence that person in an effective way. That is of importance in fields like politics, sales, advertising, psychotherapy, etc.

Problems and solutions in language analysis

There are some well-known problems to be solved when deriving information from language utterances - that is, when *interpreting*:

- a) Different individuals often refer to different matters with the same language expressions, so the question arises how to establish the 'right' meaning - if any exists.
- b) Also, language utterances sometimes are syntactically incomplete or poorly structured - that is, not construed in accordance with the rules of well-formed language use and functional communication.
- c) Often people really don't want to let out that much information about themselves or about certain circumstances they know about. Understandingly, the most interesting things tend to be most secret too.

So the question is: how can the interpretation of language be made more reliable? First it is important to realize that, although we are inclined to think otherwise, human beings quite seldomly prove to be very good mind-readers. This means that for understanding the meaning of language our primal clues are given in the explicit, sensory perceivable *form* of the language utterance (spoken or written).

Secondly, language utterances allways refer in an *indirect* way to the meaning intended, and still more indirectly to the psychological contents and processes from and by which that meaning is construed. Therefore we cannot expect to be able to derive the hidden information by a simple, direct approach.

When trying to determine the psychological 'background' of language utterances, we can successively 'peel off' the following 'layers', that range from 'superficial' to 'deep':

- A certain pattern of sounds or visual signs (phonological or graphemical structure).
- A string of words (morphological structure).
- The grammatical order of words within the sentence (syntactical surface- and deep- structure).
- The structure of the intended meaning or representation of some state of affairs (semantical structure).
- The way in which the meaning elements constitute links in an argumentation (logical structure).
- The way in which language expressions, meanings and reasonings constitute elements of a psychological process (psychological structure).

Clearly the 'deepest' layer, that of psychological structure, is most interesting here. This level however can only to be reached from the levels above, by step by step transforming every higher layer into the one that is directly situated lower. In fact, such a chain of transformations is always performed by people when 'consuming' language, interpreting and processing it. They do this mainly with help of their natural language 'intuitions', which are complemented by various sources of information like life experience, knowledge and observation of the world - that is, the relevant *context*, including nonverbal clues - and personal skills.

So everybody makes a kind of 'naive' language analysis. For the largest part this analysis is performed under the level of conscious awareness and choice. Consequently, much of the process, which is rather laborious and complex, is determined by more or less accidental factors. It is therefore likely that this process runs rather arbitrary, disorderly, untidy, so that the result - understanding of the speaker, effect on a listener - can be unsatisfactory.

To interpret language in a more reliable way simply requires that we pass through the necessary language analysis more carefully, systematically and correctly. Fortunately every stage in the decoding of language has been described in a rather precise manner within various scientific disciplines: in particular linguistics, logic and cognitive psychology. This material can be

applied in a reasonably formal, a universally valid and a reasonably flexible way. It enables one to perform an analyse of structure, that is hardly dependent of the unique but 'elusive', infinitely varying and boundlessly extensive 'content'.

Advantages of the method

The system of 'linguistical- psychological language analysis' (LPLA) presented here, has been designed to be both efficient as reliable. Therefore it has been construed out of relevant and useful elements of the above- mentioned fields of science. Consequently it has the unique advantage that it enables one to analyse language in a systematic way on linguistical, as well as logical, psychological and juridical aspects.

About 500 of theoretically relevant characteristics of language, meaning and cognition have been examined on possibly interesting derivational- relations (by statistical correlations and regression analysis). Of these, about 120 have been arranged in a practical guideline for step- by- step language analysis. There are about 80 that refer to psychologically directly interesting phenomena, like inadequate emotional reactions or dysfunctional cognitive and operations.

Applications of the method

The method serves as a *tool* in such activities involving language as:

- To gather information by means of language.

Which implies:

- Knowing how to interpret verbal utterances to derive information from it quickly, easily and correctly.
- Knowing what information is lacking, and so what (further) questions to ask.

- To judge the meaning or content of language.

Estimating reliability or usefulness of the information expressed. This comprises of the following:

- The clearness and plainness of terminologies and formulations.
- The well-formedness of syntactical structure.
- The logical coherence, validity and consistency of reasoning and argumentation.
- The semantical, psychological and physical plausibility of reported or suggested states of affairs.
- Psychological implications: 'background' information about the speaker or writer (useful for, a.o., psychodiagnostics).
- Pragmatic of persuasive aspects: estimates about expected effects on an average listener or reader.
- Juridical aspects: detecting possibly unjust implications about the equality of rights, freedoms and duties of individuals or groups within a society.

- To clarify, extend or correct language.

When expressions in some way appear to be vague, incomplete, confusing, misleading, deceptive and/or inaccurate, or discriminatory.

- To represent information in language.

Preferably in a clear, orderly, credible and convincing fashion. Which means:

- Making use of guidelines to compose your texts.
- Guarding your own language use by checking it on before mentioned criteria.

The applications of such a method are, of course, numerous.

Stages in the language analysis

In large, the method works as follows:

- First directions are given to make logical relations in a story or statement explicit, and so to map the *logical structure*.
- Then a search is started for *hidden presuppositions*, which can point to prejudices.
- After that the *syntactical structure* of the sentences is checked for completeness and unambiguity; to determine whether the utterance is open to judgement on its content at all: that is, sufficiently understandable and unambiguous.
- Now each statement can be judged on the plausibility of its *representation of affairs*.
- In addition, the *logical validity* of conclusions is checked, and well as suggested relations of chronological, causal, semantical or psychological nature.
- Thus arises a clear picture of the information and how it is represented in language. Then a *judgement on quality* can be given, in terms of more or less reliable or misleading contents.
- Finally suggestions and instructions are given for producing *effective counterreactions* on unclear, confusing or misleading elements in the utterances.
 - a. Utterances that are formulated in a vague, incomplete, or confusing way, will lead to questions that serve to clarify, supplement or correct the expressions used.
 - b. Statements and suggestions that are dubious, misleading or simply incorrect, will evoke questions that challenge, expose and check the suggested state of affairs, and eventually undermines it, thereby indicating how the information can be corrected, be made more realistic, etc.

Checklists

The manual of the method contains *checklists* of different sorts of guide-lines and criteria, required on the various stages in the process of analyzing language utterances or texts.

- A. Criteria for identifying elementary statements (clauses).
- B. Linguistic rules for identifying implicit premisses (presuppositions).
- C. Derivation- rules for different sorts of information coding.
- D. Reconstruction of the composition of argumentations.
 - a. Sorting by time: stages in the thinking process.
 - b. Logical rules for reasoning order.
 - c. Key-words for derivational relations. (Logical, causal and chronological relations).
- E. Main characteristics of syntactical structure.
- F. Main characteristics of semantical structure.
- G. Logical rules: axioms, tautologies, theorems.
- H. Checklist of characteristics of unclear, uncredible, unlogical or discriminatory language utterances. (Main criteria: clarity, plausibility, derivability/ logical validity, juridical acceptability).
- I. Survey of phallacies.
 - a. Checking the antecedens, premisses(s), argument(s) or condition(s).
 - b. Checking the consequens, conclusion(s) or effect(s).

Computer system

This method for psychological language analysis further served as a basis for designing a computer system to perform the job, or at least parts of it, (semi-) automatically.

Cees van der Velde (M.A. Psychology), April 1994.