Articulation of Normative Interrelations: An Information Theoretical Approach

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The units of normative and descriptive formal logic of truth and falsity are propositions. These are expressed by sentences assumed to be unambiguous, that is, they have one single meaning, namely the proposition at hand. The formal logic of propositions has nothing to do with communication. A central concern is logical derivation. From the two propositions (expressed by) "All whales are fish" and "All fish are warm-blooded," one may logically and correctly derive the conclusion "All whales are warm-blooded." One theorem says that if, from true propositions, we derive correctly a new proposition, it will be a true proposition. In the above derivation the logical correctness is assured by study of the terms of the sentences expressing the propositions. The terms are assumed to be unambiguous, expressing definite concepts.[1] The two first propositions are generally assumed to be false, the third true. The logical correctness of the derivation happens to be such that a true conclusion is derived from two false premises. The example is chosen to remind us of the difference between derivational correctness and (assumed) truth or falsity.

Heuristics is the art of finding out what is relevant when we try to verbally articulate our attitudes, or try to find out how we stand (or ought to stand) in difficult matters: our standpoints. It is largely admitted that it is sometimes difficult to find adequate words for what we mean. Less frequently, it is admitted that it is sometimes difficult to find out what we actually mean by what we said, or what we might, should, or must have meant by what we said, assuming we meant something at all.

The process of articulating attitudes cannot be completely separated from that of forming attitudes, creating new attitudes or modifying old ones. When articulations are supposed to fit into a context of considerable complexity, an article, a book, a systematic exposition of

parts of a total view, the test of adequateness is a formidable undertaking. The adequateness has both an internal dimension, consistency and clarity within the systematizations, and an external, the genuineness and depth of personal acceptance of the articulation. The units of articulation may have the linguistic character of a term or a sentence. The sentence may express a norm or description, and its mode may be of various kinds. As an example of a mode (way of speaking), that of Sextus Empiricus may be mentioned; that is, non-dogmatically. It is still a debated issue whether the non-dogmatic way intended by Sextus and some other Pyrrhonic skeptics may itself be tentative and we get modes of the second order. I mention this only to emphasize that the articulation of parts of a total view is an indefinitely complex affair seen from a comprehensive philosophical view. What follows is, of course, a simplification of a fragment of the process.

Suppose an articulation takes the form "It would be better for mankind to be fewer!" Considering that the terms man and mankind may offend, the articulation is changed by using humans instead. The change reveals a purpose to communicate with others. The term better is an indispensable term, however vague. But the question naturally follows: Better in what respect? Perhaps an articulation presents itself: "Better for the realization of human fundamental goals in life." This phrase is rather complicated. Its relation to the first articulation is that of a specification (not precization). It leads naturally to a question: Which are the fundamental goals and what does their fundamentality consist in? Here, both precizations and specifications may be felt to be needed. There is no definite limit to the series of questions that may be asked. On the whole, the answers may be successively more tentative, and have a less obvious character of being an articulation of (non verbal) attitudes and well established, firm opinions. The area of relevant further questions increases indefinitely. There is no obvious limit that stops the process. But there are practical limits: the human capacity for articulation, thinking, energy, and stubbornness.

An example may illustrate the genuineness and depth of personal acceptance dimension. Consider the articulation "Every living being has a value in itself." One interpretation that makes the sentence unacceptable to me is that it follows that it is ethically wrong for humans to kill a living being. The intuition which makes some of us unhesitatingly accept the sentence as expressing a normative truth does not suggest, proclaim, or imply this. But exactly what does it proclaim? The question is not well formulated. Exactness is not relevant or even possible. Each of us has only met a small number of kinds of living beings. Of the one-celled creatures which are more or less arbitrarily

classed either as an animal or a plant I have only met one which elicited joyful identification and acceptance as a kind of benevolent fellow-being: *Eutreptiella gymnastica*. She wriggled and danced with grace in a drop of water. Most others I have met did not elicit any positive feelings and some are even repulsive. It seems that the sentence about value in itself generalizes a kind of attitude that has been actualized only in a small set of experience. If we say "It is life as such, a trait belonging to every living being, that has value in itself," the question arises whether we have any genuine attitudinal relation to such an abstraction. Furthermore, if we are completely indifferent towards a certain kind of living being, do we really attribute intrinsic value to it? The reflections have no definite end. What I am driving at is the limitless manifold of theoretically relevant questions. In practice the situation is different: We leave one sequence of questions and enter others or quit the struggle of articulations until further notice.

If we say about something *A*, that it is dark, green, heavy, and beautiful, in short, that it is dagahaba, we may be wrong on 15 counts. We may find that *A* is light of weight, of colour, blue, and not beautiful, or we may be mistaken. Speaking in terms of information theory we say something is potentially carrying much more information than just saying that *A* is dark. In terms of simple calculus of propositions "*A* is dagahaba" may be analyzed into a conjunction of four independent sentences, p - *A* is dark, q - *A* is green, etc., *A* being equivalent to p&q&r&s. There are 16 true/false possibilities, of which only one makes *A* true. We may say that information to assert p gives only half of the information compared to saying p&q, 1/4 compared to p&q&r, 1/8 to p&q&r&s.

In terms of entropy, the structuralization from just asserting p to that of p&q&r&s, is a decrease, whereas the opposite event presents an increase.

It is natural to believe that the quest for knowledge and insight may be pictured as a one-directional march towards more informatory assertions, longer one-directional sequences of hows and whys, and a resulting steady gain in information and decrease of entropy. In what follows I shall try to show why this is a misleading belief and I shall illustrate it with an account of the dynamics of normative systematizations.

The life of a human being in all its dimensions is vastly complex and cannot be verbalized. There are no sets of linguistic symbols, and especially no set of terms and sentences mirroring or verbally copying

life. But verbalizations of fairly definite attitudes, sentiments, experiences, insights, presuppositions, behaviour patterns, and procedures are themselves integral parts of life. The sources of verbalizations are rarely or never exhausted through any definite set of terms and sentences. "The human will is free" relates to experiences not entirely verbalized through that sentence. One may distinguish different aspects and parts of those experiences and those related to the sentence "The human will is not free."[2]

There are traditions of mysticism in the East and the West. If we ask what is meant when we use the term "traditions of mysticism," the answer can only have a very modest function. It may lead the people asking the question to some literature, some people to be considered mystics, or to some experiences being considered mystical. The field of relevant investigations is colossal and there are no authoritative verbalizations. These are of undisputed value as expressions of mysticism or as formulations within the research on mysticism, but no definite set of fairly precise character can make all the less precise obsolete.

At this point, the question of sources of creative discovery and invention enters. These are sometimes related to the more precise, sometimes to the less precise, verbalizations in the form of assertive sentences. Consider the sentence "All living beings are ultimately one." Because of the use of the term *one* here the sentence may be considered to be an expression of mysticism of some sort. The sentence may be said vaguely to stress the unifying or universal features of the different kinds of life at the expense of those differences, or to proclaim that there is a trait common to all life that is of outstanding importance. The term ultimate may limit the kind of importance to what is in the end, or after all, important. One avenue toward a higher level of preciseness is suggested by the term identification. It does not stress an actual state of ultimate identity but a process.

The precization of the sentence, "Ultimately all life forms are one" (T_0) in the direction of "A mature person identifies with all life forms" (T_x) has arbitrary features. That is, there are often directions of precization, some of which will develop what might be meant by ultimately. Or, the tentative, more precise formulations reveal weaknesses as expressions of an attitude, judged laudable (as a metanorm), and the original expression T_0 (the 'point of departure formulation' is given up).

The development of systematic thinking may in this, as in other cases, be thus illustrated:

a) T_0

T_1

T_2 —— T_{21}

T_{22}

b) T_0 —— T_3 —— T_{31}

T_{32}

c) T_0

T_0
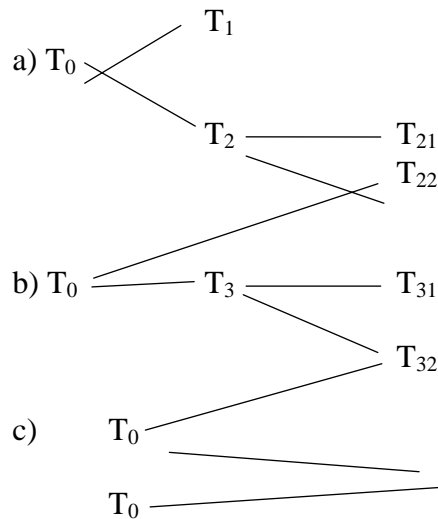
Tentative precization in two directions, the second is preferred. The same kind of step once more, but recourse to the first formulation and tentative precization in a slightly different direction and so on. In the end T_0 is given up.

Personally I do not make use of T_0, but use formulations like T_2 and formulations like all life forms seek self-realization, U_0, interpreting self preservation on analogy with Spinoza's term *perseverare in se* (not *preservare in se*). Whereas T_9 admitted very broad interpretations of life and living beings, as in "Every living being has intrinsic value," U_0 must be interpreted more narrowly in terms of biology, for instance, leaving out landscapes.

In terms of information and extended entropy theory, the total movement of the systematic thinking articulating total views is a back-and-forth movement, first increasing information and negative entropy then decreasing them. The progress cannot be conceptualized easily, but humanity may, I hope, be said to increase collective experience. There is an increase of available results of experience within and across cultures. The collectivity is most marked in the scientific development, but science comprises only a small part of human endeavour.

The above discussed back and forth movement influences the attempt to formulate fragments of a total view seen from a logical, specifically derivational, point of view. A great diversity of terms and sentences are arranged in sequences of premises and conclusions. Each of them permits of various interpretations which are continuously explored. Consequences are drawn along the stem and branches of the tree of derivations. (Or down along the pyramid of derivation, if that metaphor is used.)

In everyday life, the situation arises with high frequency where we ask: How should I express this? and the problematic feature is rather how to make others understand rather than what would be an adequate

expression of how I feel and think. In articulation of a total view, when pressing for articulation of basic views and attitude as well as for consequences for those processes in practical daily life situations, it is the other way around: at least when 'burdened' with a high formal education there are in the air words and sentences enough. There is a flow of verbalizations available. The greater problem is rather: What do I mean? What is the relation of my socially adequate flow of words to the deeper layer of my self? A sentence is offered, but exactly of what is it expressive when occurring in a definite situation of reflection?

A hypothesis is here of great practical service: "The definiteness of intention is always limited." Asking oneself or others: How did I (or you) interpret T_0 in S, a definite datable situation of sending T_0. The answers tend to be like this: 'T_1 or T_2?,' 'T_1,' 'T_{11} or T_{12}?' 'T_{11},' . . . '$T_{11 \ldots 1}$ or $T_{11 \ldots 2}$?,' 'I don't know.' That is, sooner or later, sometimes already at the start of the question sequence, the sender or receiver honestly answers "I don't know." And this is done even when the relevance, appropriateness, and clarity of the alternative interpretations offered in the question are fully recognized by the answerer. The "I don't know" type of answer has been called *nescio-answers* from Latin *nescio*, "I don't know." They testify to the limit of the definitions intention or interpretation of the sender of a sentence or term. When a receiver is asked "When you heard T_0 uttered did you interpret it as synonymous with T_1 or T_2?" and so on. The same kind of limit of interpretation or intentionality is found.

Reaching the limit of one's intention, the task at hand may demand an answer. The kind of answer "I don't know whether I have meant so or so" is not satisfactory. If the difference, the discrimination is relevant and important, one must *decide* what to mean. This implies a search centering on both one's own attitudes, sentiments, and articulate views, and on features of the situation imperfectly investigated. The decision has a character of creativity or activeness. It is not less creative than an experiment in chemistry or any other cognitive activity in search of new insights.

But so is also the work back to the crudest *conceptual* level, that of T_0. If the term *concept* is preserved for fairly well delimited, verbalized, cognitive contents, then the typical T_0, as found in articulations of basic layers of total views, is not intended to be expressive of a concept; its individual terms are not expressions of concepts.

The back and forth movement along the axis of preciseness is of little theoretical and practical interest if it does not also constitute a

movement along the axis of definiteness of intention. The ideals of a maximum or a constant level of definiteness of intention are stumbling blocks in research. Not even in creative research within the exact sciences is there room for the realization of those ideals.

Endnotes

[1] The statements about formal logic of propositions and terms are (of course) somewhat vague and ambiguous but serve their function in the context.

[2] An excellent example of distinction related to a common source is furnished by H. Ofstad's thorough analysis of main interpretation of the sentence 'x decided freely in the situation S', x being a person.