

FACTIVITY REVISITED

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1. The phenomenon of factivity made its appearance on the linguistic stage with the article "Fact" by the Kiparskys (1971, written in 1968) and throughout the 1970's continued to be a fashionable topic in the field. And yet, after more than 10 years of discussions, factivity has received neither a comprehensive nor even a satisfactory treatment. Its usefulness for linguistic explanation, not to mention its very existence, has been called into question. B. Kryk entitled one of her articles on the subject "Is factivity a fact?" (1981), and in her Ph. D. dissertation¹ came to the conclusion that "...the problem of factivity..., however attractive it might have seemed, should be abandoned as a meaningless concept not only on semantic but also on syntactic grounds" (1979: 266).

The author of this paper believes, however, that factivity *is* a linguistic fact, though still awaiting a properly assigned place in the linguistic description of natural languages. Why, then, is factivity a fact, and what's more — a troublesome one?

1.1. The Kiparskys' original formulation states that factivity is a semantic dimension of predicates which expresses the speaker's judgement about the content of the complement clause (cf. p. 365), viz. factivity is such a property of predicates (or rather of predicators, since nouns can be included here as well) which makes the speaker presuppose the truth of the complement proposition.

Two things are worth stressing at this point: firstly, factivity was linked initially with the logico-semantic (and later on also pragmatic) notion of presupposition, and, secondly, it received the most detailed treatment in

¹ B. Kryk's dissertation (1979) is, by far, the most comprehensive study existing of factivity in English and Polish complementation.

connection with the predicate complement constructions of the type:

F(factive)

(1) (The fact) that he had been imprisoned *alarmed* all of us

F

(2) (The fact of) his being imprisoned *shocked* all of us,

where presupposition (PR) for both (1) and (2) is: "It is true that he had been imprisoned". The noun *fact* is an alleged head of the whole construction in the underlying structure.

Factive presuppositions of the logical (semantic) type were claimed to hold constant under negation and interrogation, thus

F

(3) (The fact) that he had been imprisoned didn't *alarm* any of us

F

(4) Did (the fact of) his having been imprisoned *shock* anyone of you?

both have the PR: "It is true that he had been imprisoned".

The logical presupposition (in which it is a sentence, or rather an abstract proposition, which presupposes another proposition) was later reformulated to fit the pragmatic frame by stressing the importance of the speaker's/hearer's beliefs (and so it was the speaker/hearer who acted now as an active presupposer). Some authors (among others Kempson 1975) tried to supplant the highly restrictive concept of presupposition with the less strict notion of entailment, or even implication (Kryk 1979) in the linguistic explanation of factivity. I am not prepared to decide in this paper whether factivity should actually be linked up with presupposition, entailment, or implication. A much more interesting issue seems to me to be whether factivity as a semantic notion displays any clearly definable connections with syntax, and what its status in the linguistic description could be.

2. Before trying to cope with these problems let's take a closer look at some phenomena associated with factivity and mentioned by different authors at various times. Already the Kiparskys contrasted factive predicates with non-factive ones, in addition mentioning also transitional groups of indifferent and ambiguous predicates. These will be briefly discussed below.

2.1. The Kiparskys listed the following conditions as main characteristics of factive predicates:

a) their complement clause is presupposed to be true; PR remains constant in negative statements, questions and imperatives,

b) syntactic tests:

— the head *fact* or the factive *it* can appear with *that*-clauses and *poss-ing* clauses,

- factive predicates accept a full range of gerundial constructions (simple and perfect),
- adjectival nominals in *-ness* can act as presentential complements with factives,
- extraposition applies optionally,
- NEG-raising and subject/object-raising are blocked,
- pronominalization applies freely, while presententialization is blocked,
- complements of factive predicates are sometimes immune to sequence of tenses.

The typical factives for the Kiparskys were: *amuse*, *bother*, *regret*, *realize*, *be exciting/strange*, etc. (cf. pp. 345, 347, 363).

The term "full factives" was soon introduced for those factives which, as L. Karttunen claimed, preserve their PRs intact in modal and conditional contexts (in addition to standard contexts listed by the Kiparskys). And so,

FF(fully factive)

(5) It is possible that I will *regret* later that I haven't told the truth,

FF

(6) If I *regret* that I haven't told the truth, I will confess it to everyone,

both presuppose: "It is true that I haven't told the truth". On the other hand:

SF(semi-factive)

(7) It is possible that I will *discover* later that I haven't told the truth,

SF

(8) If I *discover* that I haven't told the truth, I will confess it to everyone,

bear no such presupposition (examples after Oh 1974: 517).

According to Karttunen, factives that fail the modal/conditional test for PRs should be reclassified as the so-called semi-factives, to be discussed below.

Vendler introduced different syntactic tests for factives: "It seems to me that the most reliable grammatical mark of factivity is the possibility of co-occurrence with *wh*-nominals" (1980: 280), e.g.

FF { who stole the money }
 (9) She *knew* { why he did it } (cf. p. 278)
 { what he did it with }

He also maintained the validity of the *fact* criterion, i.e. the possibility displayed by factive complements to co-occur with such lexical heads as *fact*, *truth*, etc.

Vendler's last test used to decide the factive/non-factive opposition was the adverb criterion: full factives reject such adverbs like *falsely*, *wrongly*,

incorrectly, etc. Those three tests, when applied together, yield the following list of full factives: *know, find out, realize, discover, notice, remember* (cf. p. 287).

2.2. Non-factives constitute the second major group of predicates in the Kiparskys' classification. Their characteristics, contrary to factives, are as follows:

- a) their complement clauses have null presuppositions, i.e. non-factivity is a semantic property that results in the total absence of PRs about the truth-value of complement propositions,
- b) syntactic tests:
 - they have no lexical head in underlying structure and can take only the "expletive" *it*,
 - extraposition is obligatory with them
 - they allow NEG-raising and subject/object-raising,
 - both pronominalization and pro-sententialization can apply freely,
 - they can be followed by the accusative and infinitive constructions.

Typically non-factive predicates were for the Kiparskys: *believe, appear, seem, assume, it's likely/probable*, etc. (cf. pp. 345, 347, 364).

Vendler's three criteria for non-factives are as follows:

- a) they reject *wh*-nominals:

NF

- (10) *I *believe* who did it,

- b) they reject such lexical heads as *fact, truth, falsity*,
- c) they can appear with certain manner adverbials, e.g.

- (11) I $\left\{ \begin{array}{l} \text{wrongly} \\ \text{falsely} \\ \text{incorrectly} \end{array} \right\} \left\{ \begin{array}{l} \text{NF} \\ \text{claimed} \\ \text{thought} \\ \text{assumed} \end{array} \right\} \text{ that...}$

2.3. Counter-factivity (not discussed by the Kiparskys in their seminal paper) is a phenomenon that stands in opposition to both factivity and non-factivity. Karttunen (1970), Givón (1972), Oh (1974), and Neubauer (1976), among others, mention only a few verbs of this class, viz. *pretend, dream, imagine, claim* (?), whose main semantic feature is that their complement clauses are presupposed to be false, thus:

CF

- (12) John *pretended* to be sick,

bears the PR: "John was not sick" (falsity) or "It is not true that John was sick" (untruth).

¹ Oh (1974: 523) uses the term *negative-factives* for our counterfactuals, treating them as a subgroup of full factives (he calls the other group *positive factives*). Cf. also Givón (1972).

Neubauer (1976) discusses the issue (raised originally by Karttunen) whether the relation holding between the predicate *pretend* and its complement could not be rightfully classified as entailment, and not the presupposition proper.³ Notice that PRs of *pretend* seem ambiguous in negative sentences:

- (13) John did not pretend to be sick,

may, in fact, presuppose two different things:

either a) John was not sick,

or b) John was sick (=John did not pretend to be sick — he was sick),

where the intonation contour helps us to ascribe the proper reading to the sentence. In this respect, *pretend* indeed seems to involve entailment rather than presupposition.⁴

2.4. The otherwise clear subdivision into full factives, non-factives, and counter-factives gets obscured by the existence of predicates that fail some tests for factivity/non-factivity, while passing the others. Karttunen termed those factives that do not preserve their PRs in modal and conditional contexts semi-factives (*realize, discover, find out, see, notice*—cf. Oh 1974: 517). Apparently, they meet all other conditions for full factives.⁵

Vendler, on the other hand, pointed out the following features of what he named half-factives:

- a) they are ambivalent in that they can take both factive and non-factive *that*-clauses and their *wh*-derivatives,
- b) they can co-occur with such lexical heads as *fact* and *truth*,
- c) they can appear with certain manner adverbials.

The typical half-factives are for him *tell* and *predict*. It can be easily noticed that semi-factives and half-factives as understood by the respective authors do not cover the same range of phenomena — in fact, the majority of Karttunen's semi-factives belongs to Vendler's full factives.

The Kiparskys noticed as well the existence of some dubious predicates

³ Kempson (1975: 71–72) also suggests that *pretend* involves entailment rather than presupposition. In fact, she rejects both presupposition and entailment, as artificial importations from logic, favouring implication as the most suitable for descriptions of natural languages.

⁴ a) S_1 entails S_2 if whenever S_1 is true, S_2 is also true and whenever S_1 is false, S_2 is true or false

b) S_1 presupposes S_2 if whenever S_1 is true, S_2 is also true and whenever S_2 is false, S_1 is false.

(cf. Kempson 1975: 49).

⁵ Cf. Oh's pragmatic definition (1974: 519): "For semi-factives, the speaker makes the commitment that although the complement may be true, it definitely is not known to be false".

which they termed "indifferent" and "ambiguous". Indifferent predicates are, according to them, neither factive nor non-factive, in that they can take both constructions as complements. In the feature notation they could be thus represented as $[\pm \text{fact}]$ (i.e. with PRs being either \emptyset (null) or 1=truth). Some of them, like *anticipate*, *admit*, *acknowledge*, *report*, belong to Vendler's half-factives, but others, like *think*, would be non-factives, or even full factives (*remember*).

Ambiguous predicates in the Kiparskys' opinion are only *explain* and *understand*, which — depending upon presuppositions of their complements — receive two distinct meanings (i.e. in the lexicon they could be represented as e.g. *explain*₁ (F) = "give reason for" and *explain*₂ (NF) = "say that S to explain X" (cf. Kiparsky and Kiparsky 1971: 361).

2.5. *Know* deserves a brief mention in this place. Originally, it was classified by the Kiparskys together with the syntactically non-factive predicates, with a reservation, however, that its semantics (i.e. meaning) is factive.⁶ Kryk (1979: 79) used the term *not-so-factive* for this verb (as well as for *forget* and *see*), and Green (quoted in N. A. McCawley 1977: 398) coined for it the term: a *wishy-washy factive*. And yet, for Vendler, *know* is a clear example of a full factive, both on syntactic and semantic grounds. *Know* is then an illustrative example of general undecidedness in what concerns factivity, the problem to which we will return soon.

2.6. *Implicative verbs*. At the very beginning of preoccupation with factivity, Karttunen (1970) called the readers' attention to a yet another group of verbs, linked with their complement clauses by means of implication — a logical relation of lesser strength than presupposition (implication forms a part of presupposition). This categorization yields, as a result, the following subgroups of verbs:

- a) *implicative verbs* (*manage*, *bother*, *happen*, *remember*),
- b) *negative implicative verbs* (*forget*, *fail*, *neglect*),
- c) the *only-if verbs* (*can*, *be able/possible*, *have (the) chance*),
- d) the *if-verbs* (*cause*, *make*, *have*, *force*, *persuade*),
- e) *negative if-verbs* (*prevent*, *dissuade*, *discourage*).⁷

Of these, *remember* was later on classified as a full factive by Vendler, and *forget (about)* belongs to the Kiparskys' factives as well.

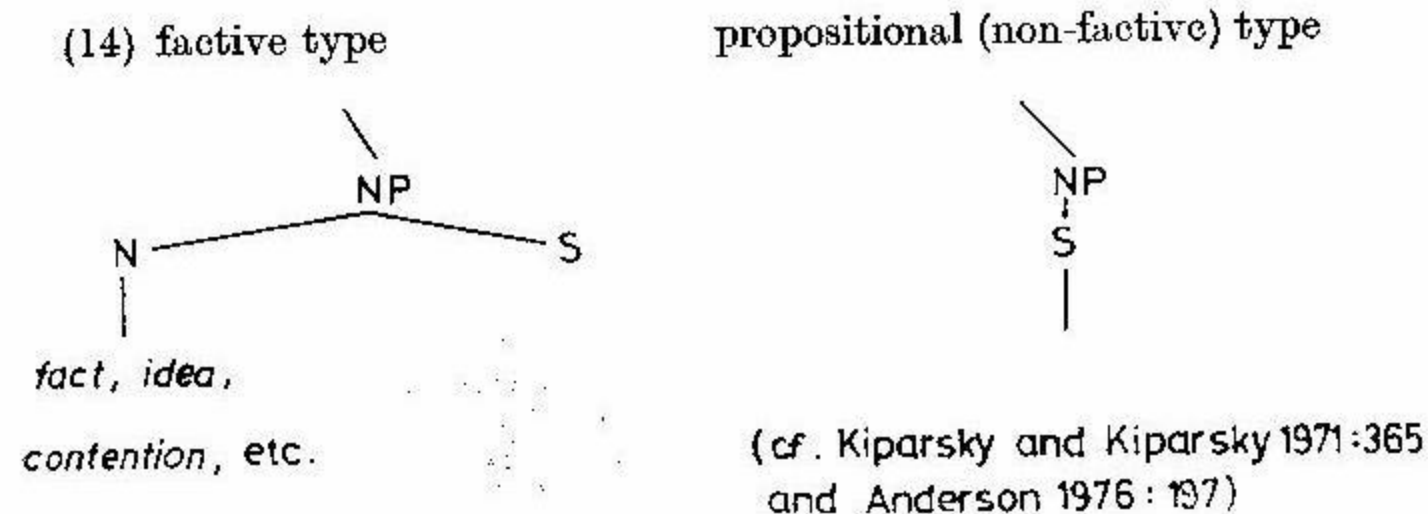
3. What the above-sketches review of the literature has disclosed is that factivity as a semantic value appears to be hardly helpful in a neat classi-

⁶ A similar problem arises with such predicates as: *it happens/it chances/it turns out, it is true/false* — semantically they seem to be factive, though they fail syntactic tests for factivity, which — according to the Kiparskys — transfers them to the non-factive group.

⁷ For a full discussion of all these types of verbs cf. Karttunen (1970).

fication of predicates. We have observed so far only a wide variety of sub-classifications, with different authors disagreeing about the syntactic/semantic characteristics of predicates along the dimension of factivity. What then is wrong with this approach? Before passing to any conclusions let us summarize basic objections raised against factivity itself or its internal organization.

3.1. After the initial enthusiasm about factivity as a newly discovered linguistic problem, some critical remarks followed pertaining to the original scheme laid out for it by the Kiparskys. First of all, the underlying structure of factive complements turned out to be an issue in itself. The Kiparskys posited the following structures to account for variations in complement types:



The Kiparskys strongly insisted on the lexical head for factive complements, trying to explain various syntactic constraints on them by their insular character, due exactly to the presence of the head noun *fact* (which need not be realized on the surface). However, it soon appeared that the syntactic tests stated by the Kiparskys are not strictly obeyed by the factives/non-factives (cf. Kryk 1981). It even turned out that some non-factives can take the lexical head *fact* (*like, inform, agree*)⁸, whereas some factives cannot actually appear with it.

Wilkinson (1970), when analysing the class of so-called *W*-adjectives (*wise, smart, kind, stupid*, etc.) noticed that their syntactic behaviour is largely that of factives, and so is their meaning. Yet, they cannot co-occur with the noun *fact* (facts cannot be wise, kind, etc.). Having this in view, Wilkinson postulated two approaches to factivity: "One would involve retention of the head noun *fact* analysis for 'true factives' and use of an underlying head noun *act, action, or deed* for the class *W*-adjectives... The other approach... would be to use abstract verbs of presupposing located at strategic points in underlying structures" (1970: 436, cf. also Stockwell 1973: 563—4).

⁸ Cf. Kryk (1981: 45): "...head noun *the fact* has much wider distribution than has generally been assumed".

On the other hand, certain linguists (Anderson 1976: 172, Hurford 1973: 281) postulated the relative clause structure for factive constructions, thus rejecting totally the NP complement in their underlying structure.

3.2. All these proposals were just aimed at technical refinements of the syntactic-semantic representation of factivity, with no objections to the phenomenon as such. However, with a new fashion for pragmatics, more serious charges were brought against factivity. Oh (1974), being in favour of pragmaticity of presupposition, pointed out that in factive/semi-factive/non-factive statements very often two and not only one person should be considered, namely the speaker and the subject of the statement. The speaker's beliefs as to the subject's attitude, being something different from the speaker's commitment to the truth/falsity of the complement proposition, may sometimes decide about the overall presuppositions of statements (utterances).

Similarly, Rosenberg (1975: 485) claimed that "pragmatic accounts of factivity are superior to accounts of factivity in terms of logically defined relations such as entailment and presupposition". What he means is that factivity is not an inherent and constant property of predicates projected on complements, but rather a pragmatic property of predicates that interacts with such factors as the difference between grammatical persons, emotivity, time, and the complement type. Rosenberg and other linguists (e.g. Spears 1973) aptly noticed that complementizers (*for*-to, *poss-ing*, and *that* are not lexically meaningless but can also interplay with the factive /non-factive distinction. Following Horn (1972), Rosenberg (p. 484) postulated the so-called scalar arrangement of predicates relative to strength of implication obtaining between them and their complements. Kryk (1979) also accepted a pragmatic framework for her analysis of factivity in English and Polish complementation, accompanied by the rejection of presupposition in favour of a loosely treated implication. Such a procedure has resulted in a handful of observations rather unenthusiastic about the validity and usefulness of factivity, at least for syntactic descriptions of complements: "...factivity, if it is of any use to linguistic description, should remain an exclusively semantic concept" (Kryk 1979: 229). Basically in agreement with Rosenberg, she also proposed a scalar arrangement of predicates (based on implication), instead of the rigid and "ill-founded" factive/non-factive contrast (1979: 129).

4. All problems with factivity briefly touched upon in the preceding sections have apparently arisen due to the one-sided and heavily syntax-oriented approach to it. Almost all discussions devoted to this phenomenon have centred on the factive/non-factive classification of predicates and their complements.⁹

⁹ The Kiparskys point out that factivity/non-factivity appears (outside of complementation) in adverbial clauses of cause, result and concession. Vendler, on the other

4.1. No less important than a mere presence in the semantic readings of verbs, adjectives, or nouns, seems to be the role of factivity in various grammatical phenomena that can generally be subsumed under the common term of modality, which — very roughly — can be defined as an attitude expressed by the speaker towards the reality, or factuality, of his utterance relative to the outside world.¹⁰

4.1.1. Some linguists have pointed out (cf. Lyons 1977: 595—596) that conditionals are to a certain extent linked with the notion of factivity. Thus, the so-called real conditionals (referring to the future, the present, or the past), e.g.

- (16) If you go there, you will see him
 (17) If she went there, she would meet them,

are actually non-factive, since the *if*-clause commits the speaker to neither truth nor falsity of its proposition (PR = \emptyset). On the other hand, the unreal conditionals (always with a past reference) are counter-factive semantically (hence their other name is "counterfactual conditionals"), cf.

- (18) If I had gone there, I should have met him
 presupposes: "It is not true that I went there" ("I did not go there").

The conditional is not the only mood in which the dimension of factivity seems to be involved. One of its obvious appearances are wishes and desires, which in different grammars have sometimes been classified as the optative or the subjunctive mood, cf.

- (19) I wish I had divorced him (optative — counter-factual, PR: I did (have) not divorced(d) him),
 (20) May she live long! (subjunctive/desiderative — non-factive, PR = \emptyset),
 (21) Lock the door lest he should come in (subjunctive/desiderative — non-factive, PR = \emptyset).

One thing should be strongly emphasized here: factivity/non-factivity/counter-factivity, intertwined — so to say — with grammatical moods, is a purely semantic dimension, using no specially delimited syntactic devices for its projection.

4.1.2. The category of mood is but one instance of grammaticalization of what in natural languages goes under the name of modality (or modalities). There is, unfortunately, no agreement among linguists as to possible boundaries of the semantic dimension of modality, or to its internal structure. Some

hand, claims that factivity/non-factivity can be an inherent feature of some nouns (cf. Vendler 1980: 280 - 281).

¹⁰ For more details see Rytel (1982) and Rathay (1979).

believe that the modality system is construed out of quite numerous individual and highly diversified modalities. There exists a hypothesis to the effect that tense may be one of them. Very interesting results of such an approach to tense can be found in Lyons (1977: 820), where the three basic grammatical tenses are presented as an intersection, or combination, of such factors as remoteness/non-remoteness (a deictic value) and factivity/non-factivity/counter-factivity, yielding:

- (22) a) the present tense: non-remoteness + factivity
 b) the past tense : remoteness + factivity
 c) the future tense: non-remoteness + non-factivity.

5. First of all, factivity is undoubtedly semantic in nature, which is actually the Kiparskys' original suggestion. Their contention seems to be that factivity as a semantic property is correlated with a specific syntactic behaviour of certain elements falling within its scope (mostly complements). Pragmaticians have become quickly dissatisfied with the syntactic side of factivity, and so, in their framework, factivity has been denied a constant value. Instead, it is ascribed a relative value, or degree¹¹, varying along the scale of strength of its presuppositions (implications, inferences), dependent upon a number of intra- and extra-linguistic factors.

Now, it is also obvious that the range of reflections in the syntactic structure of language displayed by factivity is much wider than it was supposed at the beginning. If, in fact, factivity does underlie or interrelate with such diverse grammatical phenomena as complementation, adverbial clauses of various types, nouns, and the categories of mood and tense, then certainly it cannot be uniquely and unambiguously defined by a fixed set of syntactic tests. It should be remembered that semantic phenomena are, from their very nature, less tangible and less conducive to formal treatment than purely syntactic facts. In addition, factivity in itself is partly subjective (which may sound like an apparent paradox), for many speakers will differ in their individual judgements about a clear borderline between factivity and non-factivity, not to mention even more elusive shades of semi-factivity, half-factivity, and the like: "...because the 'facts' are so intangible, especially in the area of semantics. Indeed, what we consider as facts will to a large extent depend on the framework, i.e. the model within which we describe them" (Palmer 1976: 16). No wonder, then, that factivity should overlap with such a highly subjective and individualized notion as emotivity¹² or be closely associated with moods. Actually, it seems highly probable to the author of this paper

¹¹ J. Jake (1977: 170) refers as well to varying degrees of factivity in connection with gapping.

¹² For the discussion of emotivity consult the Kiparskys (1971).

that factivity is not just loosely linked with modality, but may be treated as one of its proper constituents. Some hints at such a line of argumentation are to be found in Givón (1973). His observations draw our attention to the fact that opaque environments in language co-occur with *nonfactive modalities* (sic!), such as [NEG], [HABITUAL], [FUTURE], and [NONFACTIVE]. On the other hand, opacity is never produced by such tense modalities as [PAST] and [PRESENT-PROGRESSIVE]. Givón concludes (1973: 110):

It seems to me that one obtains here a sharp division between two types of modality in language — factive and non-factive. A factive modality is one by which the speaker commits himself to the (past or present) truth of a certain proposition, and therefore also commits himself to the referentiality of the participating nominals. A nonfactive modality, on the other hand, is one in which the speaker does not make such a commitment.

Givón also proposes the modalities [CERTAIN] and [UNCERTAIN] (or [NEG-CERTAIN]), which roughly correspond to [FACTIVE] and [NONFACTIVE]. He treats thus factivity (certainty) and its combinations with negation as "primitive" sentential modalities, linked additionally with tense/aspect relations.

5.1. And yet, the status of factivity, once it has been accepted as existent and thus necessary in the linguistic description, cannot be decided at present with any degree of certainty, simply due to the lack of an exhaustive and univocal theory of modality. So, is factivity a modality in itself or just an aspect of it? Is it a category or a feature? In Stockwell et al. (1973: 539—540) factivity and non-factivity are rendered as features [\pm FACT] marked on predicates. However, if the pragmaticians' insistence on the scalarity of predicates is credible (which it may well be), then the above bivalent feature notation cannot serve as an adequate representation of different shades or grades of factivity. And if so, if some verbs, adjectives and nouns are indeed factive to a certain degree, instead of being discretely factive or non-factive, then we come close to yet another problem, viz. of fuzziness of natural languages. Lakoff (1975), while discussing the fuzzy logic for human languages, says that "...natural language sentences will very often be neither true, nor false, nor nonsensical, but rather true to a certain extent and false to a certain extent, true in certain respects and false in other respects" (p. 221). If we bear in mind a heavy (not to say vital) dependency of the concept of factivity on such notions as truth and falsity, then the suggestion that factivity could be defined by degrees becomes more plausible.¹³ In case factivity is treated as a fuzzy or

¹³ Lyons (1977: 800) says that modality is quantifiable on a scale, in terms of degrees, which would support the hypothesis about fuzziness or scalarity of factivity, if it is indeed a part of modality.

scalar phenomenon, another question is open to the discussion: to what degree is factivity influenced by extra-linguistic factors? This is only a repetition of an old issue that Lyons (1977: 849) calls "depragmatization" of semantics.

6. I think, therefore, that factivity/non-factivity/counter-factivity should best be approached as a semantic phenomenon, which — though related to multifarious syntactic patterns — cannot be formulated in terms of a rigidly established set of syntactic tests, simply because any serious attempts at a strict correlation of semantics and syntax in natural languages seem hopeless at the present state of knowledge, if not unwarranted in principle.

The status of factivity appears to be that of a modality, or a subpart of it, though, of course, a lot will depend on how modality, whose boundaries are unfortunately not sharp, is defined within a given semantic system. Some authors are of the opinion, which I personally would be inclined to accept, that modality is a semantic category obligatorily present in every sentence and that some of its aspects are general (basic, objective), whereas others facultative (subjective) (cf. Rathay 1979, Rytel 1982). Hence, factivity might be classified as a subjective modality of the epistemic type, since its function is to voice the speaker's attitude towards his knowledge or beliefs in the reality/unreality of certain events and phenomena. Factivity, in all probability, is not a discrete feature, but a scalar quality, which brings it closer to other fuzzy concepts in language. Also, it may turn out to be a linguistic universal tied to such all-pervasive, though still little understood, dimensions of language as objectivity vs. subjectivity (cf. N. A. McCawley 1977).

"The subject is as frustrating as it is fascinating", Givón once commented (1972: 42) in connection with his analysis of perception/knowledge and aspectual/modal verbs. I could equally well repeat his words relating them to the problem of a broadly understood modality, and within it of factivity in particular. The more so because the notions "fact" itself and "proposition" were called "entia non grata" by W. V. Quine (1960: 246—248) and denied both a concrete factual content and an explanatory power in the considerations of truth-value. Obviously, acceptance of Quine's view could gravely undermine the whole concept of factivity, but I do not think we have reason to feel so pessimistic about it.

REFERENCES

- Anderson, S. R. 1976. "Pro-sentential forms and their implications for English sentence structure". In McCawley, J. D. (ed.). 1976. 165—200.
- Givón, T. 1972. "Forward implications, backward presuppositions, and the time axis of verbs". In Kimball, J. P. (ed.). 1972. 29—50.
- Givón, T. 1973. "Opacity and reference in language: an inquiry into the role of modalities". In Kimball, J. P. (ed.). 1973. 95—122.
- Hockney, D. et al. (eds). 1975. *Contemporary research in philosophical logic and linguistic semantics*. Dordrecht: D. Reidel.
- Horn, L. R. 1972. *On the semantic properties of logical operators in English*. Unpublished Ph. D. dissertation. Los Angeles: University of California.
- Hurford, J. R. 1973. "Deriving S from S+Is". In Kimball, J. P. (ed.). 1973. 247—299.
- Jake, J. 1977. "Gapping, pragmatics, and factivity". *CLS* 13. 165—172.
- Karttunen, L. 1970. "On the semantics of complement sentences". *CLS* 6. 328—339.
- Karttunen, L. 1976. "Discourse referents". In McCawley, J. D. (ed.). 1976. 363—385.
- Kempson, R. M. 1975. *Presupposition and the delimitation of semantics*. Cambridge: Cambridge University Press.
- Kimball, J. P. (ed.). 1972. *Syntax and semantics*. Vol. 1. New York: Seminar Press.
- Kimball, J. P. (ed.). 1973. *Syntax and semantics*. Vol. 2. New York: Seminar Press.
- Kiparsky P. and C. Kiparsky. 1971. "Fact". In Steinberg, D. and L. Jakobovits (eds). 1971. 345—369.
- Kryk, B. 1979. *Factive verbs in English and Polish*. Unpublished Ph. D. dissertation. Adam Mickiewicz University, Poznań.
- Kryk, B. 1980. "Presupposition and its application to the analysis of factive verbs". *SAP* 11. 109—125.
- Kryk, B. 1981. "Is factivity a fact?", *Kwartalnik Neofilologiczny XXVIII*, (1/81). 37—53.
- Kryk, B. 1982. "The relation between predicates and their sentential complements. A pragmatic approach to English and Polish". *SAP* 14. 103—120.
- Lakoff, G. 1975. "Hedges: a study in meaning criteria and the logic of fuzzy concepts". In Hockney, D. et al. (eds). 1975. 221—271.
- Lyons, J. 1977. *Semantics*. Vol. 1, 2. Cambridge: Cambridge University Press.
- McCawley, J. D. (ed.). 1976. *Syntax and semantics*. Vol. 7: *Notes from the linguistic underground*. New York: Academic Press.
- McCawley, N. A. 1977. "What is the emphatic root transformation phenomenon?" *CLS* 13. 184—400.
- Neubauer, P. 1976. "The 2nd verbs *pretend*". In McCawley, J. D. (ed.). 1976. 399—407.
- Oh, C. K. 1974. "More on degree of factivity". *CLS* 10. 517—527.
- Palmer, F. R. 1976. *Semantics: a new outline*. Cambridge: Cambridge University Press.
- Quine, W. V. 1960. *Word and object*. Cambridge, Mass.: The MIT Press.
- Rathay, W. 1979. "Some aspects of modality as seen from a semantic point of view" *SAP* 10. 105—122.
- Rosenberg, M. S. 1975. "Factives that aren't so". *CLS* 11. 475—486.
- Rytel, D. 1982. *Leksykalne środki wyrażania modalności w języku czeskim i polskim*. *Monografie slawistyczne* 47. Wrocław: Ossolineum.
- Searle, J. R., Kiefer, F. and M. Bierwisch (eds). 1980. *Speech act theory and pragmatics*. Dordrecht: D. Reidel.
- Spears, A. K. 1973. "Complements of significant-class predicates: a study in the semantics of complementation". *CLS* 9. 627—683.
- Steinberg, D. and L. Jakobovits (eds). 1971. *Semantics: an interdisciplinary reader*. Cambridge: Cambridge University Press.
- Stockwell, R. P., Schachter, P. and B. Hall Partee. 1973. *The major syntactic structures of English*. New York: Holt, Rinehart and Winston.
- Vendler, Z. 1980. "Telling the facts". In Searle, J. R. (ed.). 1980. 273—289.
- Wilkinson, R. 1970. "Factive complements and action complements". *CLS* 6. 425—444.