LINGUISTIC METATHEORY:
THE NEGLECTED HALF OF THE LINGUIST'S TRAINING*

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I. The study of linguistic metatheory is an essential part of the
linguist's development and so should figure in the training that is
required of all students in the field. However, it is not at present
accorded even a small part of this importance.

The development of knowledgeable, critical linguists is a goal to
which all of us ascribe as teachers of linguistics. A 'knowledgeable'
linguist would be one familiar with different theories, hypotheses,
opinions and how to perform the analysis of data they advocate. We take
this to be the responsibility of the disciplines of linguistic theory:
phonology, morphology, syntax, semantics, pragmatics. A 'critical'
linguist would be one with the capacity for critical thinking and
expression, i.e. critical evaluation and use of his knowledge; this is
the responsibility of the discipline(s) of linguistic metatheory.
Combining aspects of the Theory Comparison Method that Dougherty (in
Botha 1979:240) advocates with the 'valuing skills' of Raths, Harmin and
Simon (1966, Chapt. 3), Bunge's (1967,I:9) stages of the scientific
method, and the literature on critical and scientific thinking as
synthesized by Ennis (1962), we can suggest Ten Criteria for Critical
Science (C-criteria) (see FIGURE 1, following page). They summarize the
skills necessary for a critical approach to science and thus make our
notion of 'critical' more precise.

Linguistic metatheory, a specific branch of metascience (see Bunge
1959), is necessary because it defines and examines these criteria and
provides the tools for complying with them.

II. We need to be more precise about what we mean by LINGUISTIC
METATHEORY so as to make its role in developing critical linguists
clearer.

Linguistics, like other factual sciences, is dual in nature.
Linguists study the facts of language, making hypotheses and theories
about them, and they evaluate these theories and hypotheses to see which
are more adequate. Formulating hypotheses and theories we have defined
as the domain of linguistic theory, and linguistic metatheory (or
METATHEORY) will be construed as the complementary process of evaluating
the hypotheses and theories once constructed. More explicitly stated,

C-Criteria	What to Study
1) Seek alternative solutions to a given problem thoroughly and objectively.	Library skills, brainstorming.
2) Identify the components of the solutions/theories.	Systematic definitions of law, hypothesis, data, etc. (see Bunge 1967) and models of argument structure (Toulmin 1969).
3) Formulate them in objective terms.	Symbolic Logic, set theory.
4) Deduce their consequences.	Syllogisms, scientific inference.
5) Compare the alternatives objectively and thoroughly.	Criteria for evaluation (Bunge 1967; Ennis 1962) of theory components.
6) Choose an alternative independently, according to the desirability of its consequences.	Criteria for evaluation (Bunge 1967; Ennis 1962) of theory components.
7) Be secure enough of your position to voice it in public.	Your own position, according to the steps above.
8) Voice your opinion as clearly, accurately and completely as possible.	Argumentation (Jensen 1980), effective writing, public speaking.
9) Become aware of your implicit assumptions and preferences.	Your own position, according to the steps above.
10) Act consistently and repeatedly on your decisions.	Your own position, according to the steps above.

FIGURE 1: Ten Criteria for Critical Science (C-Criteria)

linguistic metatheory is the evaluation of linguistic theories and their components (hypotheses, laws, assumptions, goals, etc.), as well as the methods for arriving at, formulating, justifying, and evaluating them.

The immediate relevance of this for our argument is that if linguistics involves both formulating and evaluating hypotheses, then teaching linguistics must involve teaching both, as well.

III. It should be reasonably clear by this time that the subject of metatheory is presupposed by the C-criteria in FIGURE 1 and, as well, by a critical science of linguistics. Thus, teaching metatheory would involve teaching how to comply with the C-criteria through critical analysis of others' work and, most importantly, of one's own. There are, however, some objections that might be raised to the necessity of teaching this explicitly:

(a) 'But that's philosophy, not linguistics.' It's simply the use of philosophical tools to improve linguistics, and whatever the tools, statistical, mathematical, logical, or computational, the subject matter is still linguistics. Gleason (1974:21) would reply that:

> We must come to understand that results are not valid or acceptable because of the theory in which they are presented, but in spite of it. That theories do not carry with them the truth about language, but are only tools helping in our search for knowledge and understanding. That a discipline comprises at least theory, methodology [metatheory], and accepted results. And that of these the growing body of results is the center, and theory and methodology are jointly-- equally--handmaidens to it.

(b) 'But everyone already knows that kind of thing.' That may be so, but upon inspection we find that the literature is riddled with metatheoretical *faux pas*: some confuse theory with hypothesis (Perlmutter 1974: 92, fn.1), others think that empirical validity (i.e. correspondence IN CONTENT to reality) derives from the simplicity and generality of the FORM of their hypotheses (Bever, Fodor, and Wecksel 1965:289), and in other cases opinions assume, in the space of a few pages and without the benefit of data or argument, the status of facts (Chomsky, in Derwing 1979: 173, fn.19).

(c) 'So what's new? I teach that in all my courses. It's part of the subject matter.' Can you do, for example, semantics and metatheory together, both systematically, in the same course? Do you have the opportunity to discuss, compare and test the metatheoretical concepts explicitly?

(d) 'But my department offers other courses on that kind of thing.' If that's so, then yours is an exceptional department and it must not be easy: textbooks and journals are rare or non-existent;[1] the literature is very dispersed and no specialized indices or bibliographies are available, as there are for pragmatics, for example (see Verscheuren 1978 and annual supplements in the *Journal of Pragmatics*). Few introductory texts deal even cursorily with metatheoretical concepts: of some 25 introductory or general linguistics textbooks published in four languages, only five[2] (all European) devoted a chapter to the notion of linguistics as a science. As for course offerings in North American universities, a random sample (a little more than half) of the 58 programs listed in the 1980 LSA Directory as offering the Ph.D. in Linguistics shows the results in FIGURE 2 below:[3]

FIGURE 2:   Course Offerings Related to Metatheory

Course Offered	% of Programs Offering
History of Linguistics.	50%
Modern Theories of Grammar/Language. History of Modern Linguistics.	33%
Linguistic Theory.	13%
The Nature of Grammar(s).	10%
Linguistic Argumentation.	10%
Philosophy of Linguistics. Linguistics and Philosophy of Science.	10%
Linguistic Scholarship/Critical Thinking.	10%
(History of) Phonological Theories.	7%
(History of) Syntactic Theories.	7%
Theories of Lexical Structure.	7%

One can reasonably conclude that linguistic metatheory is not very widely taught, though obviously metatheoretical notions have to be used in almost every linguistics course. One last possible objection:

(e) 'Theory is already hard enough, now you want us to have to study METAtheory?!' some students may say in dismay, conjuring up images of some very obscure, esoteric, stratospherically abstract confabulations designed specifically to confuse them. Quite the contrary, metatheory attempts to provide exactly the tools necessary for dealing with obscurity and abstractness. It can help them think straighter, critique more clearly, write more convincingly and thereby help them publish more productively and get jobs.

IV. Having accepted the necessity of teaching metatheory, we are immediately confronted with the problems of implementing such a program in day-to-day practice: What exactly should be taught? What materials and bibliography are available? How should/could these things be taught?

For a sampling of books and articles see the bibliography attached and the references they in turn cite. We have summarized in the right-hand column of FIGURE 1 some of the skills that can be taught to these ends. Let us discuss them in some more detail. Firstly, what we mean to say with FIGURE 1 is that critical linguists need to know these things, NOT that linguistics departments must teach them all. The proposal that these things be taught in linguistics departments is, however, not so farfetched as it may seem: some departments do offer courses in library skills, argumentation, effective writing, logic or philosophy of science (see FIGURE 2). Many have informal seminars so students can get experience in public speaking. Others make one or some of these obligatory but leave them to be given in other departments. Both, it seems to us, are valid and desirable alternatives.

Unfortunately, many students do not know how to make the best use of a library, and the importance of a thorough bibliographical search before writing a paper has not been sufficiently impressed upon many others. This, of course, leads to a great deal of duplication of published work. Library search not only shows care in research but is an enormous source of 'new' (for the researcher) ideas, as is brainstorming (cf. Stein 1974) which not only promotes the use of imagination, even wild speculation, but also provides good opportunities to objectively evaluate the alternatives produced (see also Taylor and Barron 1963).

The findings of the philosophy of science on the logical structure of theories (see Bunge 1967) can go a long way toward establishing at least a minimal consensus among linguists as to what theories, hypotheses, data, etc. are. Botha (1970, 1973) showed that linguists do not always use valid, useful or complete forms of argumentation. Teaching the linguists of the future what proper examples are is the first step toward identifying and avoiding these problems.

The notions of set theory and logic can contribute a metalanguage for the objective and explicit formulation of theoretical propositions. This can be seen in the work of Montague, Chomsky, and many others and can help in avoiding some of the inherent ambiguities of natural language while making the analysis of theoretical inferences and presuppositions more straightforward. Logic also studies syllogisms and fallacies and with them can help lay bare the nature of scientific inference.

The present controversies about the 'empiricalness' of TG linguistics and the question of psychological 'reality' reflect the need for a systematic treatment of the EVALUATION of theoretical statements in linguistics, even more so since it is a salient feature of the linguist's day-to-day work. The skills of argumentation, effective writing and public speaking are also needed on a daily basis, yet their teaching, let alone requirement-status, are strangely enough 'out of fashion'. No one needs more examples of poorly argumented, written and presented papers than those they have already seen or heard.

The 'what' of teaching metatheory reduces, very simply, to the things that linguists are now supposed to acquire 'as they go': concepts and notation for a scientific metalanguage, criteria for evaluation of their work, and tools for presenting it. The relevance of these things is self-evident. This leaves us with the question of HOW to teach them.

Since metatheory is to a great extent intuitive, i.e. evaluative judgements of correspondence, quality, appropriateness, relevance, etc. are involved, we can proceed in any of three ways to develop these intuitions, as argued by Harmin and Simon (1973). We can:

(a) not do anything, since students have to learn it for themselves or be born with it;

(b) attempt to transfer, by providing a model, preaching, brainwashing, or by whatever means, a set of ready-made standards for them to simply apply, or

(c) provide them with structured situations in which they have to make their own decisions and develop their own standards.

Clearly none of these is sufficient, though all are necessary. Option (a) is tantamount to admitting defeat before the battle has started, and is an eminently inefficient route to progress. There is a further complication with this approach: it is literally impossible to do nothing. One unwittingly provides a model or advocates a view in every act. The 'do-nothing' approach has, however, the positive characteristic of letting students work for their own knowledge which

makes them value it more highly. The second alternative (b) has many variants: the 'model' approach, the 'reward-and-punishment' approach, the 'explanatory' approach, the 'nagging' approach, etc. There are also problems with this alternative: students are presented with many often conflicting models and the difficulty of making a rational synthesis remains untreated, as does the problem of knowing whether the standards transmitted really are right, and finally that of in essence forcing one person's views on another. The positive side, however, is that a 'received view' is presented and in adopting a stance one can see in what ways one deviates from it. The last alternative (c) encompasses the favorable aspects of (a), i.e. students are free to make their own decisions, and avoids the unfavorable aspects of (b). The difficulty is that the positive aspect of (b) is missing: it is necessary to provide a measure of the 'received view'. For some students this will amount to telling them just what they should do, for others it will provide a judgement of the opposition they are up against if their views differ. What is needed is to combine them by providing students with situations in which they can make their decisions independently but with the help of some standards that are presently accepted.

One of the most widespread means of making students knowledgeable is the lecture. We would propose, however, that it is not appropriate for making them critical, for these reasons:

(a) the focus of attention in lectures is the professor and his views, where we are interested in the student's views and development;

(b) there is little room for making value judgements, the emphasis is on absorbing 'facts';

(c) it gives them practice as passive listeners, where we want them to practice being active, questioning participants and, most importantly,

(d) it affords them little opportunity to develop and defend their own opinions.

Some of the alternatives are pair or small-group work, debates, polls, and take-home problems with student discussion in class. The role of the teacher in such a class is to shift the focus to the students, listen, direct discussion and ask questions that will make students define and refine their positions. (See bibliography in Howe and Howe 1975 for suggestions that can be adapted). In essence, it is not important WHAT positions students take in a metatheory course, but HOW they define, justify, present and refine them.

Our first axiom, then, is that a metatheory class is most efficient when student centered, because of the very nature of the subject matter. The second is that of relevance: the subject matter should be problem oriented rather than answer oriented i.e., the emphasis should be on problem solving rather than answer absorbing. Relevance is assured by the students' having to formulate a position in their own terms that they think is acceptable and defensible, and relating it to their own interests and opinions. This can take the form, for metatheory, of discussing controversies: the psychological reality controversy, the empiricalness of linguistics, ape 'language', the scope of linguistics, ordered vs. unordered deep structure, the autonomy of syntax, and so on.

V. The three-level schema proposed by Harmin, Kirschenbaum and Simon (1973) seems to be very appropriate for organizing material for teaching metatheory: they propose an organization in terms of the level of facts, the level of concepts and the level of opinions which fits in well with Ennis' (1962:84-5) three dimensions of critical thinking. The example in FIGURE 3 (see following page) will serve to make these distinctions clearer.

The level of facts is necessary for practice in identifying and classifying the components of arguments and as a basis for further discussion. The level of concepts entails comparing the components identified with alternatives and general criteria so as to make a preliminary evaluation. At the level of opinions, the discussion focusses on having students relate the discussion to their own views, thus making the knowledge their own, arriving at more profound value judgements and actively exploring other alternatives of their own.

Perlmutter (1974:86-91) suggests a very good technique for teaching syntactic argumentation that can easily be applied to C-criteria 1 through 6: supply students with materials satisfying criteria 1 through 5 and have them perform 6. Next, provide them with materials satisfying criteria 1 through 4 and have them provide 5 and 6, and so on backwards to the beginning. Activities for C-criteria 7 through 9 would involve presenting and defending a point of view orally or in writing through squibs, debates, etc.

Whether carried out with Perlmutter's technique, by simply following the arrangement of the three-level scheme, or by covering the C-criteria one by one as they are listed, metatheory can be taught and can lead to productive and interesting discussion.

VI. The fundamental view underlying our position is that one can give linguistics all the trappings of a scientific undertaking: abstract formalisms, the search for explanation and prediction, ambitious aims,

FIGURE 3: Example of Harmin, Kirschenbaum and
Simon's (1973) three-level schema applied to:
The Psychological Reality Controversy

Level of Facts:

(1) who are the main participants in this controversy?

(2) what are their views?

(3) what arguments and evidence do they offer?

(4) do their views change over time? If so, how?

(5) how can their arguments be formulated unambiguously?

Level of Concepts:

(1) what is psychological reality used as a criterion for?

(2) what are the other criteria with this function?

(3) how does psychological reality relate to the other criteria
that serve the same function?

(4) what are the consequences for Chomsky of adopting Pylyshyn's
(1972:551) definition of psychological reality?

Level of Opinions:

(1) how good or useful do you think the respective definitions of
psychological reality are?

(2) what do you think would be a better definition?

(3) some say that Chomsky adopts his view vis-a-vis psychological
reality to 'protect' his theory. Do you think this is a valid
move?

(4) do you think this controversy is fruitful or misleading? Why?

(5) what do you think of psychological reality as a criterion for
the evaluation of theories? Do you think others are more
important? Why?

well-defined methods, etc., but until the enterprise becomes self-reflexive and self-critical in a systematic fashion it will not be true science. If one seeks to make of linguistics a real science, then a concentrated effort in the study and teaching of metatheory is urgently needed. In this sense, the neglected half of the linguist's training is his most essential.

NOTES

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[1] The most recent and complete textbook to appear is Botha (1980).

[2] The five texts are: Guillaume (1973), Collado (1974), Crystal (1971), Heilman (1971) and Robins (1968).

[3] Admittedly, data for this kind of survey are fraught with problems. Basic data were course titles, since course descriptions are often not included in university catalogs, and even when included are famous for being incomplete, out of date, or inaccurate. There really are no reliable data available on how linguistics is taught, what percent of professors use which texts or subscribe to which approaches, not even on what is taught, or what is required of all students. Such a survey would provide extremely interesting data.

BIBLIOGRAPHY

Bever, T., J.A. Fodor and W. Wecksel. 1965. Theoretical notes on the Acquisition of Syntax: a Critique of 'Contextual generalization'. *Psychological Review* 72:6.467-82.

Botha, R. 1968. *The Function of the Lexicon in Transformational Grammar*. The Hague: Mouton.

_____. 1970. *The Methodological Status of Grammatical Argumentation*. The Hague: Mouton.

_____. 1971. *Methodological Aspects of Transformational Generative Phonology*. The Hague: Mouton.

_____. 1973. *The Justification of Linguistic Hypotheses*. The Hague: Mouton.

_____. 1979. *The Theory Comparison Method vs. the Theory Exposition Method*. In Perry (ed.), 1979.

_____. 1980. Methodological Bases of a Progressive Mentalism. *Synthese* 44:1.1-112.

Bunge, M. 1959. *Metascientific Queries*. Springfield, Ill.: Charles C. Thomas.

_____. 1967. *Scientific Research, vols. I and II*. New York: Springer Verlag.

Cohen, D. (ed.) 1974. *Explaining Linguistic Phenomena*. Washington, DC: Hemisphere Publishing Co.

_____ and J. Wirth (eds.) 1975. *Testing Linguistic Hypotheses*. Washington, DC: Hemisphere Publishing Co.

Collado, J-A. 1974. *Fundamentos de Lingüística General*. Madrid: Gredos.

Crystal, D. 1971. *Linguistics*. Hammondsworth, England: Penguin.

Derwing, B. 1973. *Transformational Grammar as a Theory of Language Acquisition*. Cambridge: Cambridge University Press.

_____. 1979. Against Autonomous Linguistics. In Perry (ed.) 1979.

Dinneen, F. 1974. *Linguistics: Teaching and Interdisciplinary Relations*. [GURT 1974] Washington, DC: Georgetown University Press.

Ennis, R.H. 1962. A Concept of Critical Thinking. *Harvard Educational Review* 32:1.81-111.

Gleason, H. 1974. A Successful Textbook. In Dinneen (ed.), 1974.

Guillaume, G. 1973. *Principes de Linguistique Théorique*. Québec: Presses de l'Université Laval.

Harmin, M. and S. Simon. 1973. Values. In H. Kirschenbaum and S. Simon (eds.). *Readings in Values Clarification*. Minneapolis, Minn.: Winston Press.

_____, H. Kirschenbaum and S. Simon. 1973. *Clarifying Values Through Subject Matter*. Minneapolis, Minn.: Winston Press.

Heilman, L. 1971. *Corso di Linguistica Teorica*. Milano: Celuc.

Itkonen, E. 1976. *Grammatical Theory and Metascience*. Amsterdam: John Benjamins, B.V.

Jensen, J.V. 1980. *Argumentation: Reasoning in Communication*. New York: D. Van Nostrand.

Perlmutter, D. 1974. On Teaching Syntactic Argumentation. In Dinneen (ed.). 1974.

Perry, T. (ed.). 1979. *Evidence and Argumentation in Linguistics*. Berlin: De Gruyter.

Pylyshyn, Z. 1972. Competence and Psychological Reality. *American Psychologist* 27:6.546-52.

Raths, L.E., M. Harmin and S. Simon. 1966. *Values and Teaching*. Columbus, OH: Charles E. Merrill Publ. Co.

Robins, R. 1968. *General Linguistics: An Introductory Survey*. Harlow, England: Longmans.

Stein, M. 1974. *Stimulating Creativity*. 2 vols. New York: Academic Press.

Taylor, C.W. and F. Barron. 1963. *Scientific Creativity: Its Recognition and Development*. New York: J. Wiley and Sons.

Toulmin, S. 1969. *The Uses of Argument*. Cambridge: Cambridge University Press.

Verscheuren, J. 1978. *Pragmatics: An Annotated Bibliography*. Amsterdam: John Benjamins, B.V.

Wunderlich, D. 1979. *Foundations of Linguistics*. Cambridge: Cambridge University Press.