

DISCUSSION ON PAPER 2

DR. PARKER-RHODES questioned the difference between "little John" (subject) *dependent* on "ate" (verb) (see 179-180 of paper) and yet, in Example 1, (p.187 of paper), "naprjazhenya" (subject) being *on the same Level* as "otschityvajutsja" (verb) and both these words dependent on the clause indicator.

MR. PLATH replied that in predictive analysis, subject and predicate are equi-levelled predictions and are so given in his output diagrams.

DR. PARKER-RHODES still could not see why these same predictive considerations were not applied to the English sentence example.

MR. PLATH. The English sentence was used only as an example, and with it he chose the traditional way of representation of English sentences as being more convenient for the audience.

DR. GOOD. On a point of terminology, Dr. Good questioned the use of the term "domain". The notion of a projective language seems to be of potential importance for some natural languages. But for a logical intermediate language the order of words in a sentence ought to be unnecessary for a complete description of the syntactic structure of a sentence.

The structure of a sentence in an intermediate language should be expressible in terms of mathematical functional notation, such as

$$f_{10}(f_9, f_{12}(f_{11})).$$

a realization of which might be Ate (he, this(cake));

or

$$f_5(f_4, f_2(f_3, f_7, f_6(f_1))),$$

where each functional symbol belongs to a *class* (19 say), and the classes are in one-one correspondence with the syntactic categories. In the above example, f_5 is a function of two variables, f_2 is a function of three variables, f_6 is a function of one variable, and f_4 is a function of no variables.

Each function is defined by specifying the *domains* of words that can be each of its arguments, and the *range* of words that can be its values. For this reason Mr. Plath's use of the word "domain" is liable to conflict with established mathematical usage in the theory of functions.

MR. PLATH realised the possible confusion. The term is a literal translation of M. Lecerf's "domaine" (Fr.), both words being used in precisely the same context. He does use a reordering which corresponds approximately to an intermediate logical language; for Instance, when he reorders a noun phrase to look like:-

noun	adj	adj	adv
f_1	V_1	V_2	V_3

i.e. noun as the functor, with v_1 , v_2 and v_3 as its variables, which is quite unlike any natural language.

MR. WENGER remarked that for information retrieval studies, sentence diagramming should preferably stop at the stage of parentheses, with some additional labelling. Ramo-Wooldridge have themselves done just this.

MR. PLATH agreed. The diagram is a better final output though, for human study.

J. McDANIEL