Some examples of some problems have been raised. It is not the intention of the author to supply the answers to some of these problems. However, it is felt that it would have a salutary effect if more people would think about the problems. Until the courts clearly indicate what the situation will be, the questions raised here remain clearly open. The decisions seem to indicate that:

Punch cards, magnetic tape, and computer printouts would be considered "printed publications."

It is unlikely that the court would hold that mere listing of compounds by computer would anticipate under the Von Bramer doctrine.

The printing out by computer of permutations and combinations under a clear teaching of a Markush group still falls under the Von Bramer principle and is an anticipation.

Indexing and coding instructions may constitute a presumption of teaching of a compound that can be rebutted by a proper showing.

An answer given as the result of the use of the compositing technique would probably not constitute an anticipation of the claimed compound.

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A Note on the Style of *Chemical Abstracts**

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This note, examining some of the more common stylistic features of *Chemical Abstracts*, is based on 200 sentences representing both continuous and discontinuous text. A preliminary look at the sample has revealed a certain uniformity of expression and sentence construction which is, no doubt, attributable to the strict editorial policy of the journal. It is felt worthwhile to go further into the matter and see what grammatical and syntactic devices are characteristically employed to achieve this uniformity. The findings are here briefly reported under three heads: (1) general features, (2) the subject, and (3) the complement.

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1. GENERAL FEATURES

The first remark that one can make about the general nature of the writing in *CA* is that it is as a rule simple in linguistic structure and straightforward in intent. The major single factor that contributes to the simplicity is the choice, as far as possible (over 75% in our sample), of simple declarative sentences. The basic (kernel) sentence types used are NVN (subject + transitive verb + object), N is A (adjective), N is N (complement), NVPN (prepositional phrase), and less frequently NV (intransitive). In addition to these kernels, some transforms are employed. The one major sentence transformation consistently and frequently employed is

the passive because it happens to be a handy means of indicating the performance of an act, particularly when the subject of the action is too unimportant or too obvious to mention (*e.g.*, "The model is developed...," "Accurate rate constants can be determined...," etc.). The passive connotation is also present in certain elliptical constructions of the type N + Ven (past participle): *e.g.*, "the alloys employed...," "radical compressive stress caused...," etc., which imply a relative clause with a passive verb ("alloys which are employed," "radical stress which is caused," etc.). The use of N + Ven is only matched in popularity by the use of N + Ving (present participle) constructions, as in: "formula describing...," "change occurring...," "alloys contg...," etc.

One of the devices profitably exploited for sentence modification in *CA* is the prepositional phrase. A number of important facts, conditions, situations, etc. are expressed concerning the action indicated by the verb of the sentence (*e.g.*, "One, or possibly two, unidentified metastable carbides may be precipitated from supersaturated Si Ferrite at 1100° F. and below." "The martensitic types transform to martensite on cooling to room temp.," etc.). The proportion of other sentence adverbials is very low.

2. THE SUBJECT

The subject types in the corpus seem to follow certain specific patterns in their structure. The majority of them are expansions of one kind or another, and are very flexible. Possibilities made use of include: single noun, row of nouns joined by conjunction, nominal compound or phrase, noun followed by prepositional phrase as post-modifier, noun followed by relative clause, gerund, etc. Of these different categories, the nominal phrases and compounds acting as subjects deserve some illustration. They are utilized by the abstractor to the fullest extent because of their compactness and economy. Some examples are (a) *Compounds*: "source unit" (unit which is the source), "constitution diagram" (diagram of constitution), "solute segregation" (segregation of solute), "quartz spectrograph" (spectrograph of quartz), "blast furnace smelting" (smelting in blast furnace), "water quenching" (quenching by water), "kitchen utensils" (utensils for kitchen), "corrosion resistance" (resistance to corrosion), "anti-tarnish protection" (protection against tarnishing), "straight line relation" (relation like that of a straight line), etc.; (8) *Phrases*: "segregation of carbide" (derived noun + prepositional object), "composition of steel" (property of material), "pelleting of ore-concentrates" (gerund + prepositional object), etc.

3. THE COMPLEMENT

For purposes of our study we stretch the use of the term "complement" to include all linguistic material that follows the verb in a regular-order sentence structure. An analysis of the corpus has revealed that the following types of complements commonly occur after the verbal: zero (no complement), noun (acting as complement of linking verb), adjective (acting as complement of linking verb), direct object, and prepositional phrase. Of these, the prepositional phrase is the most frequent and the most versatile.

Before closing, one or two uses of this study may be mentioned. Any kind of processing of natural language text requires a thorough knowledge of its structural as well as stylistic features. In information retrieval the methodology for structuring and querying the file is greatly dependent upon the stylistic peculiarities of the text. Further, a comparison of *CA* with other technical abstracts can be attempted on the basis of some of the data presented here to see how a maximum of information can be conveyed in a minimum of space.

A Study of Coverage in *Chemical Abstracts* of the Literature on C-Reactive Protein, a Biomedical Borderline Area*

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This study is an outgrowth of two activities of the senior author (R. F. R.): as a scientist involved in biomedical research and as a part-time abstractor for the Chemical Abstracts Service (CAS). Assignments to abstractors come from CAS either as references to specific papers or as a responsibility for covering all suitable material in a specific journal. Obviously, the selection of a paper for abstracting requires the decision to be made by someone that that particular paper contains material of chemical interest (*1*). Personal experience has shown that making

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