

**IFAC****INFORMATION BULLETIN**

No. **30**
21st November,
1966

International Federation
of Automatic Control

Editor: Prof. Dr.-Ing. V. Broida
Boulogne sur Seine, France

Published by the IFAC-Secretary
Dr.-Ing. G. Ruppel
Postfach 10 250, Düsseldorf, Germany
(All correspondence should be
directed to the Secretary)

REPORT
on the
TERMINOLOGY COLLOQUIUM, IFAC CONGRESS LONDON

The Colloquium arranged by Terminology Chairman H.L. Mason provided accounts of the progress and plans of 11 international groups which specify concepts, terms, definitions, letter symbols or graphical symbols of interest to control engineers. Reports of three IFAC subcommittees were also given. A copy of any of these extended presentations is available on request; the summaries below are brief abstracts.

J. Brown, writing for L. Wallner of ISO/TC 37, Terminology Principles and Coordination, reported completion of DR 676, Naming principles; DR 769, Symbols for languages, countries and authorities; DR 781, Vocabulary of terminology; and DR 792, Guide for the preparation of classified vocabularies. Work is proceeding on International unification of concepts and terms. Layout of multilingual systematic vocabularies, Layout of monolingual systematic vocabularies, and Lexicographical symbols. A Vocabulary for automatic controlling and regulating systems, with terms and definitions in English and French is in press; equivalent terms are given in German, Spanish, Italian, Dutch, Polish, and Swedish, and extensions in Russian are being prepared.

G.C. May reported for ISO/TC 10/SC 3, Graphical Symbols for Instrumentation, that national standards have been published by UK, USA, Netherlands, India, USSR, Czechoslovakia, Hungary, Roumania, and Poland. The international group now in process of organization is expected to deal with process control functions, first as to basic symbols and later with detailed measurement techniques.

J. Guilhavmou described the actions of ISO/TC 99/SC 1, Terminology of Computers and Information Processing, who have considered Chapters A & D of the IFIP/ICC Vocabulary (in English), requested a French version, and will next study Chapters E, F, J, K, L, & R. It will form a multi-national advisory group to comment on the above and on documents submitted by CCITT and ASA.

J. Hoffmann, representing IEC/TC 1/WG 37, Automatic Controlling and Regulating Systems, noted plans for 6 chapters of edition 3 - General terms, Dimensions, Terms of the block diagram, Working Characteristics, Directions for use, Components. For the one on Components, 146 terms have been defined in French

by the Belgian Electrotechnical Committee. The entire set of definitions is to be completed before work begins on letter or graphical symbols.

M.K. Landolt, of IEC/TC 25, Letter Symbols and Signs, described the discussions of 1893, 1904 and 1908 which led at last to Publication 27 in 1914, recommending alphabets, type faces, unites, mathematical signs, and such symbols as C, E, I, P, and R. This recommendation is now in its 4th edition, listing 138 items. A working group on automatic control is being planned; WG 2 now deals with telecommunications and electronics and WG 3 with static converters, while WG 1 handles steering and liaison with ISO/TC 12, IUPAP, CIE, UIT, and IEC/TC 3 on graphical symbols and circuit diagrams. Special problems under consideration are Rules for subscripts. List of recommended subscripts, Symbols for quantities varying with time, and Amendments to Publication 27.

R. Beuchelt explained that NAMUR utilizes the draft DIN 19227 to show details of instruments, primary elements and final control elements, rather than to indicate the functions which these devices perform. However, DIN 19227 when revised will cover the latter aspect also, as in ISA RP5.1 or BS 1646.

U.A. Luoto described the cooperative effort of the Finnish Association of Power and Fuel Economy (EKONO) and the Swedish Steam Boiler Owners Association (AF) in preparing letter symbols and system flowchart symbols. They have corresponded with NAMUR, 8D-RP5 of ISA, and the Canadian Pulp and Paper Association (CPPA), and have tentatively settled on F=flow, L=level, P=pressure, T=temperature, EI= electric current, r=ratio, d=difference, t=time, S=switch. However, various other transducers and related equipment are still without symbols, and the EKONO-AF committee plan to await further developments from other countries.

H. Lautensach spoke of the need in UCPTE for defining terms relating to the international operation of interconnected high-voltage systems of electrical power distribution. A volume giving 100 definitions on system control in French, German, Italian and Dutch was reprinted in 1962; Spanish, British, and American terms were added in 1964. Ultimately, a load-dispatcher's dictionary will be published, covering 1000 terms on Switchyard apparatus and auxiliary equipment, Operation, Basic definition of electrical engineering, Protection systems, Measuring and counting devices, Communication systems, High-voltage grid and plant control, Types and causes of faults. About 700 of these terms have been fixed in French and German, and completion of the work is expected by the end of 1967.

J.A. Bachrach of CECA described the compilation of an automatic dictionary based on computer-produced listings comprising the terms in alphabetical order, always followed by short locutions showing the various uses of the term together with indications of the source from which the context was taken. For the Steel Congress of 1964, research and documentation centers were asked to provide a great deal of material on subjects likely to be discussed, e.g. pre-

fabrication, earthquake-proof buildings, etc. A certain amount of this material was read, and short phrases of interest were underlined. Translations of these into 4 other languages was accomplished by reading material about the same subjects published in other languages, as in text books and technical handbooks, and the 5-language phrases were copied onto cards. After transfer to magnetic tape, a KWIC programme was written to sort out all words of interest in the sentences of each language as keywords which are printed out in the margin. These were then coded to form a lexicon for recognition of various forms of verbs, nouns, etc. To use DICAUTOM, a translator underlines (in a telex-typewriter) the terms questioned, and the computer prints out a limited number of phrases in reply. For example,

POSE DES PANNEAUX DE REMPLISSAGE DE LA CHARPENTE
FIXING OF WALL CLADDING PANELS ON STEEL FRAME
PANNEAUX DE FACADE COURANTS
ORDINARY FRONT PANELS

Thus close translator-computer co-operation is possible, the terminologist can be called in if needed, adaptability is provided, updating is easy, and definitions in a specific field can be listed together with their sources.

Gy. Striker expressed the willingness of IMEKO to cooperate with other international organizations in developing terminology related to measurement and measuring devices.

A.R. Wilde noted that an IFIP terminology committee undertook in 1961 the production of an International Multi-lingual vocabulary for information processing. In cooperation with ICC in Rome, they decided to combine the lexicographer's OBSERVATIONAL approach with the technical expert's DOGMATIC approach. They started with a term, discussed the several different meanings it had in common use, then firmly discarded it. Then it was replaced by a conceptual phrase, which was defined precisely and supplemented by a "layman's" explanation. These definitions were given to a 6-nation English-language subcommittee who fitted an English term to the concept. Two important decisions followed: that the publication should be a series of mono-lingual vocabularies, and that the subject matter in each should be divided into subsets of related material. The attempts to make this subdivision led to some revision of definitions and eliminated some looseness of usage. Lastly, the text was put into machine-readable form, and the computer was instructed to signal any defined term which appeared in some other definition. The first-English edition has been published, translation into Dutch, French, Italian, Spanish, and Swedish is in hand, and work is continuing on edition 2 of the basic document.

M.A. Mason presented for SCi the methods of lay-out and the symbols for simplified signal-flow diagrams for analog and hybrid computers to be used in the journal Simulation. These show only the essential signal flow, and are not "hardware-peculiar". They are not intended as standards for the industry, but Prof. Hoffmann of AICA is prepared to recommend

their use by his members.

C. Penescu of IFAC/TGY/SC 1, Graphical Symbols, reported that he had examined the usage of several countries and industrial firms, and is preparing draft proposals on symbols for block diagrams and symbols for functional diagrams. He also described automation standards of Roumania, free copies being obtainable from him: 6019-62 STAS, Terminology, E 6755-63 STAS, Basic conventional signs and 7070-64 STAS, Regulations for technical documentation drawings.

D.T. Broadbent of IFAC/TGY/SC 2, Multilingual Dictionary, mentioned unexpected delays in return of the material which went to his 6 redacteurs in February 1966. The dictionary consists of about 650 terms, each expressed in English, French, German, Russian, Italian, and Spanish, equivalents and alternatives, but without definitions. The arrangement is by 10 groups of serial-numbered concepts, numerous open-ended subgroups and an alphabetical index, in each language. It will be obtainable from the Instrument Society of America in the fall of 1966, at 9 dollars.

J.G. Paquet of IFAC/TGY/SC 3, Worldwide Activity, presented accounts of terminology work in 1964 and 1965 in Austria, Denmark, Germany, Japan, France, Sweden, Poland, UK, and USSR. A supplement on 15 organizations in USA came from W.I. Caldwell of AACC.

M.A. Gavrilov of USSR presented some comments on the definition of "control", to supplement the work of the Academy Committee presented in the IFAC Proceedings, Moscow Congress 1960, vol. 2, pages 1052-1066.

There was little time for discussion in the two two-hour sessions, but at the close a resolution was passed urging IFAC emphasis on cooperation with IEC's TC 1, TC 3, and TC 25, and consultation with organizations such as IMEKO and IFIP.

H.L. Mason