ACS Committee on Nomenclature: Annual Report for 1988

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Nomenclature committees, both national and international, were very active in 1988, resulting in substantial progress in many different fields. A summary of the more important meetings and accomplishments follows.

The ACS Committee on Nomenclature continues to be active. Editors of ACS journals are ex officio members of the Committee. The Committee held its annual meeting at Chemical Abstracts Service (CAS) in November. The Committee continues its efforts to communicate with the ACS membership as well as all other groups who have an interest in chemical nomenclature. As part of this effort, open meetings were held again at the ACS National Meetings in Toronto and Los Angeles. Good communication with high school chemistry teachers is being maintained through P. Hill of the Newburgh Free Academy in New York. Cooperation with the American Society for Testing Materials (ASTM) Committee on Medical Terminology has been established on an ongoing basis. Close liaison with other ACS bodies such as the Committees on Education and Science as well as various Divisions is being sought. A joint meeting with the ACS Division of Chemical Information at the ACS National Meeting meeting in Dallas in April is planned. The promotion of and input into International Union of Pure and Applied Chemistry (IUPAC) recommendations is, as always, a primary objective of the Committee. A subcommittee continues to investigate problems relating to the nomenclature of biotechnology by focusing on the nomenclature of altered proteins. The ACS Committee on Nomenclature, in cosponsorship with the ACS Division of Chemical Information, and the United States Adopted Names Council of the American Medical Association, the American Pharmaceutical Association, and the U.S. Pharmacopeia, is arranging a symposium on "The Terminology of Biotechnology, a Multidisciplinary Problem" to be held at the 1989 International Chemical Congress of Pacific Basin Societies in Honolulu. Work on an ACS inorganic guidebook, *Nomenclature of Inorganic Compounds*, is nearly complete. Preparation of a new edition of the organic guidebook, *Nomenclature of Organic Compounds*, is being pursued at the request of the ACS Publications Division. The subcommittee on Chemical Pronunciation continues to be active.

The IUPAC Interdivisional Committee on Nomenclature and Symbols (IDCNS) continued to function effectively this year. It held its annual meeting in Oxford in September. In addition to the IUPAC publications listed in the Appendix, specific documents in process and thus not yet recorded in this Appendix deal with the following topics: steroids; kinetic methods of analysis; radicals and ions; representation and symbolism of reaction mechanisms; and organic chemical transformation. *A Guide to the Use of the IUPAC Nomenclature of Organic Compounds* is undergoing review by IDCNS. Publication of the revised Red Book from the Commission on Nomenclature of Inorganic Chemistry is imminent. The revised manual *Quantities, Units, and Symbols in Physical Chemistry* has been published (see Appendix).

The IUPAC Commission on the Nomenclature of Inorganic Chemistry met in Helsinki, Finland, in August. Page proof for the revised *Nomenclature of Inorganic Chemistry* (the Red Book) has been produced, edited, and returned to the publisher. Part II of the Red Book was the primary topic of the 1988 CNIC meeting. Professor Jon McCleverty of the U.K. has agreed to serve as its editor. The four publications from CNIC selected for inclusion are *Isotopically modified compounds*, *Nomenclature of nitrogen hydrides*, *Regular single-strand and quasi single-strand inorganic and coordination polymers*, and *Nomenclature of polyanions*. Manuscript documents still under review in the Commission that are to be in Part II are *Nomenclature of inorganic chain and ring compounds*, *Ligand abbreviations*, and *Nodal nomenclature for fused ring and branched chain compounds*. Documents on porphyrin metal complexes and metal cluster compounds were assigned to Working Parties. The special notational problems associated with the absolute and relative configurations of π-allyl and π-butadiene molybdenum and zirconium complexes were discussed.

The IUPAC Organic Nomenclature Commission met in Zurich, Switzerland, in August. The Commission continued its study of the reorganization and revision of the present edition of the IUPAC organic rules and the development of new techniques for longer range consideration. In connection with the latter, projects dealing with nomenclature for cyclophanes, oxo acids, and nodal numbering are continuing to develop. A convention for describing rings and ring systems with cumulative double bonds was published (see Appendix). Comprehensive documentation on classical ions and radicals, natural products, and fusion nomenclature is well advanced. Glossaries of class names and stereochemical terminology are being compiled. In addition, projects on revision of Section E (Stereochemistry), indicated hydrogen, and numbering priorities are under study.

The IUPAC Commission on Macromolecular Nomenclature met in Tokyo, Japan, in August. The Commission agreed on the content of the *Compendium of Macromolecular Nomenclature* (the Purple Book), which will consist of a preface, the history of the Commission, an introduction to polymer nomenclature, nine documents grouped under definitions, nomenclature, and abbreviations, and a bibliography of biopolymer-related IUPAC–IUB nomenclature recommendations. The Commission discussed and made progress on documents dealing with (a) bulk polymer property terminology, (b) stereochemistry definitions—part 2, (c) network and nonlinear polymer nomenclature, (d) double-strand (ladder and spiro) organic polymer nomenclature, (e) polymerization reaction terminology, (f) graphic polymer representations, (g) irregular polymer nomenclature, and (h) liquid-crystal terminology. Three 1988 recommendations (classification of linear single-strand polymers; definitions of terms relating to individual macromolecules, their assemblies, and dilute polymer solutions; and definitions of terms relating to crystalline polymers) are in press and will be published in *Pure Appl. Chem.* in 1989.

In biochemical nomenclature both the Joint Commission on Biochemical Nomenclature (JCBN) and the Nomenclature Committee of the International Union of Biochemistry (NC-IUB) met jointly in Brussels, Belgium, in April. Rec-

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ommendations for the nomenclature of glycoproteins, glycopeptides, and peptidoglycans have been published (see Appendix). A second supplement to the 1984 edition of *Enzyme Nomenclature* is in preparation. Publication of a new fourth edition of the compendium *Biochemical Nomenclature and Related Documents* was delayed by the editorial reorganization of the *Eur. J. Biochem.*, but it should appear in 1989. Work on a substantial revision of the 1971 edition of the steroid rules has been completed, and the recommendations are going through the review procedure. Work continues on preparation of recommendations for the nomenclature of prostaglandins, carbohydrates, neurotransmitters, leukotrienes, and other biochemical specialties. Revisions of the lipid and terpene rules are planned.

At the ACS Division level, 10 divisions are represented on the ACS Nomenclature Committee. These are the Division of Analytical Chemistry, Division of Carbohydrate Chemistry, Division of Chemical Information, Division of Fluorine Chemistry, Division of Inorganic Chemistry, Division of Medicinal Chemistry, Division of Nuclear Chemistry and Technology, Division of Organic Chemistry, Division of Physical Chemistry, and Division of Polymer Chemistry. Nomenclature activities within these divisions varied widely.

The Chairman of the Committee is the CAS Director of Nomenclature and, through these combined offices, maintains close liaison between ACS nomenclature committees, CAS, and other organizations. During 1988 the cooperation of the Nomenclature Division with outside organizations continued to be substantial. In the area of drug names we again have made a considerable contribution to the U.S. Adopted Names (USAN) program of the American Medical Association and the International Nonproprietary Names (INN) program of the World Health Organization. In addition, we advise on drug nomenclature relating to the U.S. Pharmacopeia. Similar contributions in the area of pesticide names are being made to the programs of the American National Standards Institute and the International Standards Organization. We now cooperate or provide services in the nomenclature field to the following organizations:

American Chemical Society
American Institute of Nutrition
American Medical Association
American National Standards Institute
American Pharmaceutical Association
American Society of Hospital Pharmacists
British Crop Protection Council
British Pharmacopeia
British Veterinary Codex Committee
Canada Department of Agriculture
Canadian Standards Association
Drug Enforcement Association
Food and Agricultural Organization
Food and Drug Administration
International Agency for Research on Cancer
International Committee on Polycyclic Aromatic Compounds
International Standards Organization
International Union of Biochemistry
International Union of Crystallography
International Union of Nutritional Sciences
International Union of Pure and Applied Chemistry
National Cancer Institute
National Institutes of Health
National Library of Medicine
National Research Council
United Nations Division of Narcotic Drugs
U.S. Department of Agriculture
U.S. Department of the Army
U.S. Fish and Wildlife Service
U.S. Pharmacopeia
World Health Organization

Public awareness and understanding of the importance and the role of chemical nomenclature in science communications was actively promoted by various members of the Committee by means of individual presentations, publications, refereeing, and advisory activities. In addition, correspondence with individual authors and editors was processed regularly. CAS continues to be the headquarters for the distribution of nomenclature pamphlets and other nomenclature information.

APPENDIX: OFFICIAL NOMENCLATURE PUBLICATIONS, 1988

IUPAC

Analytical, Applied, and Clinical Chemistry Divisions: Interdivisional Working Party for Harmonization of Quality Assurance Schemes for Analytical Laboratories. Protocol for the Design, Conduct, and Interpretation of Collaborative Studies. *Pure Appl. Chem.* **1988**, *60*, 855–864.

Analytical Chemistry Division: *Compendium of Analytical Nomenclature. Definitive Rules 1987*, 2nd ed.; Blackwell Scientific Publications, Oxford, U.K., 1987; 279 pp.

Analytical Chemistry Division: Commission on Spectrochemical and Other Optical Procedures for Analysis. Nomenclature, Symbols, Units and Their Usage in Spectrochemical Analysis. VII. Molecular Absorption Spectroscopy, Ultraviolet and Visible (UV/VIS), Recommendations 1988. *Pure Appl. Chem.* **1988**, *60*, 1449–1460.

Analytical Chemistry Division: Commission on Spectrochemical and Other Optical Procedures for Analysis. Nomenclature, Symbols, Units and Their Usage in Spectrochemical Analysis. X. Preparation of Materials for Analytical Atomic Spectroscopy and Other Related Techniques, Recommendations 1988. *Pure Appl. Chem.* **1988**, *60*, 1461–1472.

Inorganic Chemistry Division: New Notations in the Periodic Table. *Pure Appl. Chem.* **1988**, *60*, 431–436.

Inorganic Chemistry Division: Commission on Atomic Weights and Isotopic Abundances. Atomic Weights of the Elements 1987. *Pure Appl. Chem.* **1988**, *60*, 841–854.

Inorganic Chemistry Division: Commission on Nomenclature of Inorganic Chemistry. Newsletter 1987. *Transition Met. Chem.* **1987**, *12*(3), 278–281.

Organic Chemistry Division: Commission on Nomenclature of Organic Chemistry. Nomenclature for Cyclic Organic Compounds with Contiguous Formal Double Bonds (the Delta Convention), Recommendations 1988. *Pure Appl. Chem.* **1988**, *60*, 1395–1401.

Organic Chemistry Division: Commission on Physical Organic Chemistry. Names for Hydrogen Atoms, Ions, and Groups, and for Reactions Involving Them, Recommendations 1988. *Pure Appl. Chem.* **1988**, *60*, 1115–1116.

Organic Chemistry Division: Commission on Photochemistry. Glossary of Terms Used in Photochemistry, Recommendations 1988. *Pure Appl. Chem.* **1988**, *60*, 1055–1106.

Organic Chemistry Division: Commission on Photochemistry. Selected Terms and Symbols in Photochemistry (brief alphabetical list extracted from the Glossary of Terms Used in Photochemistry). *J. Photochem. Photobiol., B* **1987**, *1*(2), 261–270.

Physical Chemistry Division: Commission on Molecular Structure and Spectroscopy. Presentation of Molecular Parameter Values for Infrared and Raman Intensity Measurements, Recommendations 1988. *Pure Appl. Chem.* **1988**, *60*, 1385–1388.

Physical Chemistry Division: Commission on Physicochemical Symbols, Terminology and Units. *Quantities, Units and*

Symbols in Physical Chemistry; Blackwell Scientific Publications, Oxford, U.K., 1988; 134 pp.

IUPAC-IUB

Joint Commission on Biochemical Nomenclature (JCBN), Newsletter 1988. *Eur. J. Biochem.* **1987**, *170*, 7–9. *Arch. Biochem. Biophys.* **1987**, *260*, 851–854. *Biochem. J.* **1988**, *249*(1), I-III.

Joint Commission on Biochemical Nomenclature (JCBN), Nomenclature of Glycoproteins, Glycopeptides and Peptidoglycans, Recommendations 1985. *Pure Appl. Chem.* **1988**, *60*, 1389–1394.

NATIONAL TRANSLATIONS AND ADAPTATIONS

Nomenclature of Organic Chemistry (*IUPAC*). Sections A–F and H. Edited by the CSIC and the Real Sociedad Espanola de Quimica, Madrid, 1987.

Alderweireldt, F. C.; Bos, H. J. T.; Maat, L.; Tavernier, D. *Rules for the Nomenclature of Organic Chemistry, Sections A and B*; Koninklijke Nederlandse Chemische Vereniging, Vlaamse Chemische Vereniging: Den Haag, 1987; 139 pp.

Blaha, K.; Capek, K.; Cerny, M. Nomenclature Rules of Organic Chemistry and Biochemistry, IUPAC–IUB Rules for Nomenclature of Saccharides. Conformation Descriptors for Monosaccharides with Five- and Six-Member Rings. *Chem. Listy* **1988**, *82*, 422–429.

Cerny, M.; Capek, K.; Blaha, K. Nomenclature Rules of Organic Chemistry and Biochemistry. IUPAC–IUB Nomenclature Rules for Saccharides. Nomenclature of Monosaccharides with Branched Chains. *Chem. Listy* **1988**, *82*, 525–531.

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ACS/CAS

Publications and Presentations of CAS Staff and Members, Consultants, and Associates of the ACS Committee on Nomenclature, 1988

Dermer, O. C. Lighthearted Nomenclature. Book review of *Organic Chemistry: The Name Game*; Nickon, Alex; Silversmith, Ernest F.; Pergamon: Elmsford, NY, 1987; 347 pp. *Science* **1988**, *239*, 1184–1185.

Gorin, G. Book review of *Quantities, Units and Symbols in Physical Chemistry*, IUPAC; Blackwell Scientific Publications: Oxford, U.K., 1988. *J. Am. Chem. Soc.* **1988**, *110*, 7267–7268.

Gorin, G. Measuring the Amount of X in Mole Units, Letter to the editor. *Chem. Int.* **1988**, *10*(5), 173–174.

Heumann, K. F.; Wellisch, H. H. Sinister Dexterity. *Verbatim* **1987**, *14*(2), 1–3.

Lide, D. R. Assuming Reliable Data for Science and Technology (Herman Skolnik Award Address). Presented at the 3rd Chemical Congress of North America and the 195th National Meeting of the American Chemical Society, Toronto, Canada, June 7, 1988.

Lide, D. R. Goals and Structure of CODATA. Presented at the 3rd Chemical Congress of North America and the 195th National Meeting of the American Chemical Society, Toronto, Canada, June 7, 1988.

Lide, D. R. Materials Data Banks in the United States. *Met.: Corros.-Ind.* **1988**, *63*, 162–166.

Loening, K. L. ACS Committee on Nomenclature: Annual Report for 1987. *J. Chem. Inf. Comput. Sci.* **1988**, *28*, 150–153.

Loening, K. L. Chemical Nomenclature: An Overview. Presented at the Symposium on Chemical Nomenclature and Terminological Science: A Useful Blending of Two Disciplines, Amsterdam, The Netherlands, June 24, 1988.

Loening, K. L. Chemical Nomenclature: An Overview. *Symposium Proceedings: Chemical Nomenclature and Terminological Science: A Useful Blending of Two Disciplines*, Amsterdam, The Netherlands, June 24, 1988; Topterm: Amsterdam, 1988; pp 8–34.

Loening, K. L. The Language of Chemistry. Lecture presented at Osaka University, July 23, 1988, and also at the Chemical Society of Japan in Tokyo, July 25, 1988. *Gendai Kagaku* **1988** (211), 62–68.

Loening, K. L. Poster Session: Conventions, Practices, and Pitfalls in Drawing Chemical Structures. In *Chemical Structures*; Warr, W. A., Ed.; Springer-Verlag: Berlin, 1988; pp 413–423. (Proceedings: Chemical Structures: The International Language of Chemistry, Noordwijkerhout, The Netherlands, May 31, 1987.)

Loening, K. L. The Road to a Truly Authoritative Chemical Dictionary. In *Terminology and Knowledge Engineering, Supplement*; Czap, Hans, and Galinski, Christian, Eds.; INDEKS Verlag: Frankfurt/M., 1988; pp 102–103. (Proceedings: International Congress on Terminology and Knowledge Engineering, Trier, FRG, Sept 29–Oct 1, 1987.)

Loening, K. L. The Road to a Truly Authoritative Chemical Dictionary. In *Standardization of Technical Terminology, Principles and Practices*; Strehlow, Richard A., Ed.; ASTM: Philadelphia, PA, 1988; pp 14–22.

Loening, K. L. The U.S. Committee's View of the Matter. Presented at the Round Table: What Shall We Do About the Headings in the Periodic Table?, 3rd Chemical Congress of North America and the 195th National Meeting of the American Chemical Society, Toronto, Canada, June 9, 1988.

Loening, K. L.; Jenkins, A. D. Nomenclature for Polymers. In *Comprehensive Polymer Science, Polymer Characterization*; Booth, C., and Price, C., Eds.; Pergamon Press: Oxford, U.K., 1988; Vol. 1, Chapter 2, pp 13–54.

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Metanomski, W. V. Unusual Names Assigned to Chemical Substances. *Ir. Chem. News* **1988**, (Spring), 31–34.

Powell, W. H.; Sloan, T. E. Inorganic Ring Nomenclature: Past, Present, and Future. Presented at IRIS-V (Fifth International Symposium on Inorganic Ring Systems), Aug 8–12, 1988, University of Massachusetts, Amherst, MA.

Powell, W. H. What Caused the Problem in the First Place?—The IUPAC View and Its Proposed Solution.

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Secrist, J. A., III. Book review of *Organic Chemistry: The Name Game*; Nickon, Alex; Silversmith, Ernest F.; Pergamon: Elmsford, NY, 1987; 347 pp. *J. Am. Chem. Soc.* **1988**, *110*, 7936.

Smith, P. A. S. Humor and Substance in Organic Nomenclature. Book review of *Organic Chemistry: The Name Game*; Nickon, Alex; Silversmith, Ernest F.; Pergamon: Elmsford, NY, 1987; 347 pp. *Chem. Eng. News* **1988**, *66*(17), 26–27.

Zaye, D. F. Book review of *How to Find Chemical Information*, 2nd ed.; Maizell, R. E.; Wiley-Interscience: New York, 1987. *J. Chem. Inf. Comput. Sci.* **1988**, *28*(1), 40.

INTERVIEWS AND QUOTES

D. H. Busch and K. L. Loening were interviewed and quoted in How to Set a Periodic Table, Is There a Way Out of Elemental Confusion? Shekhar Hattangadi. *Ind. Chem.* **1988**, *9*(5), 20–23.

K. L. Loening was interviewed and quoted in Terminologie: Watch Your Language. Hans Buskes. *Chem. Weekbl.* **1988**, April 28, 90.

An independent opinion of J. H. Stocker was quoted on the back cover of the book *Organic Chemistry: The Name Game. Modern Coined Terms and Their Origins*; Nickon, Alex; Silversmith, E. F.; Pergamon: Elmsford, NY, 1987; 347 pp.

COMPUTER SOFTWARE REVIEWS

WordPerfect for the Macintosh†

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The mechanics of preparing and editing journal articles, book chapters, and books has become increasingly easier as more sophisticated word-processing packages have become available. The recent introduction of WordPerfect for the Macintosh, used in conjunction with graphics software and a laser printer, could turn any writer into a publisher of professional-looking books and newsletters.

WordPerfect version 1.0.1 is loaded with features. It has so many that a two-tier pull-down menu is required to display them all, and they occupy 1110K of disk space. The basic WordPerfect software requires 315K, and it is accompanied by WP Thesaurus (354K), WP File Formats (43K), WP Help (92K), Speller Utility (22K), and Dictionary (284K).

As a veteran user of MacWrite (version 4.6, which only requires 78K of disk space), I was interested to know whether WordPerfect would be any easier to use. The screen for a new document in WordPerfect looks only slightly different from the screen in MacWrite. Page and line numbers are referenced in the lower left corner of the screen instead of the page number appearing in the vertical scroll bar. The ruler in WordPerfect, although preset, does not automatically appear at the top of the document as it does in MacWrite. The bottom of the screen in WordPerfect has a quick access bar for changing style or for sub- or superscripting. The style can also be changed by using the second tier of the Font pull-down menu.

WordPerfect has the same 22 fonts, 6 basic styles plus subscript and superscript, and 6 letter sizes that MacWrite has. Superscripts and subscripts are created in a slightly different way in WordPerfect, and there is opportunity to select the size and position desired. A MacWrite text containing subscripts or superscripts is interrupted by extra half-lines within the paragraph to accommodate them. With WordPerfect, these half-lines are not necessary, and without them, better looking copy is produced.

Some of the features in WordPerfect not available in MacWrite are macro, merges, show codes, timed backup, file management, append, mark text, retrieve, and columns.

The macro function can be used to program a series of keystrokes or mouse movements. This feature adds versatility to WordPerfect, allowing one to tailor it to individual requirements. For example, subscript and superscript have no keystroke option in WordPerfect. These functions are used often in my writing, and I found mousing my way to superscript or subscript each time, even with the quick access bar, became tedious. When I created my own keystroke option command using macro, my problem was solved.

The merge command can be used to combine such things as address lists and form letters and can be chained with macros to minimize the number of operations needed to create an end product. These features are likely to be underused for scientific writing, but they are very simple to put into operation if needed.

The show codes feature is essential for software as complex as WordPerfect. A document can become loaded with "invisible" codes, and sometimes in editing a manuscript, a hidden code can produce some unexpected results. Show codes allows one to "see" the normally invisible codes and delete unwanted ones.

The retrieve feature on WordPerfect allows one to copy a whole document into another one painlessly, without having to close the original document, open the document to be copied,

† WordPerfect for the Macintosh. Version 1.0, April 26, 1988. Version 1.0.1, Aug 1, 1988. WordPerfect Corp., Macintosh Product Support, 288 W. Center Street, Orem, UT 84057. Telephone (801) 225-5000; telex 820618; FAX (801) 227-4288. WordPerfect retails for $395. MacWrite, version 5.0 with spell checker, retails for $125.