

OVERVIEW

INTRODUCTION

The ASTM Symposium on Standardizing and Harmonizing Terminology: Theory and Practice held October 5-6, 1993, was the fourth such symposium held under the auspices of the ASTM Committee on Terminology. [1], [2], [3] This book (ASTM STP 1223) follows in a series of publications resulting from these symposia that has been recognized in the world-wide terminology community for its excellence, timeliness and relevance.

The current volume is appearing against a background of expanding world trade and growth in the role of ASTM standards in international markets. Harmonization of terminology within ASTM has frequently been expressed as a concern for the proliferation of redundant or conflicting term entries in the *ASTM Compilation*. [4] Although these problems—most of them interdisciplinary in nature—remain and continue to plague us, they have been exacerbated by the need to resolve harmonization issues with respect to multilingual equivalents, particularly with respect to the North American Free Trade Agreement (NAFTA) and to the increasing involvement of ASTM members and staff in the work of the International Organization for Standardization (ISO). Perhaps most pressing, however, is the issue of terminology as the medium for specifying and defining data elements for use in data interchange environments. The critical role that terminology plays in this area is underscored by the fact that machines, unlike human users, do not easily adjust to synonyms, differences of opinion, and admitted terms. The question of terminology harmonization within the framework of data exchange and information retrieval is likely to dominate concerns in the field well beyond the turn of the next century.

The introductions to the previous two volumes of this series set a precedent for thoughtful reviews of the state-of-the-art in terminology activities, both in ASTM and beyond. The desirability for such a review in this volume, however, is diminished by virtue of a detailed roundtable discussion included here as the final contribution to the symposium section of this book. The editors feel that the comments of the symposium participants themselves speak more eloquently to the issues facing terminology management within the standards community today than would any other overview of terminology activities. Hence this brief introduction will simply present a synopsis of the symposium presentations.

CONCEPT CONGRUENCE—THEORY AND PRACTICE OF TERMINOLOGY HARMONIZATION

Gilreath's "The Semantic Valence of Terms: a Systematic Treatment of Multi-meaning Terms" grapples with the challenge to provide a more consistent terminological framework in which to discuss multi-valence and to clarify the types of relations that exist within multi-valent term systems. As a companion to the this article, Gilreath also has provided a second article entitled "Resolving Term Disputes with Weighted Onometrics." Although not presented at the Symposium, this contribution is of particular interest in this venue as a practical follow-up on an article that appeared in the previous volume of the Terminology Series, *ASTM STP 1166*. [5] Taken together, the two onometrics articles attempt to set down quantitative criteria for rating candidate terms according to criteria such as transparency, precision, unequivocalness, precedent, and conciseness.

In "Content Analysis of Definitions," Strehlow proposes a systematic set of questions designed to guide standardizers and other terminologists in crafting well-formed definitions and provides display mechanisms for analyzing and illustrating the essential properties (characteristics) and incidental properties that must be taken into consideration during the definition-writing process. Strehlow's article constitutes an important documentation of the history of the definition as a form of information management within western thought.

In "The Representation of Concept Systems," Riggs explores procedures for representing concept systems in conjunction with the development of terminology resources, with special emphasis on the use of hypertext capability in interactive environments. He also addresses problems inherent in the terminology that is widely used throughout the field of terminology work and terminology science.

DESIGN AND MANAGEMENT OF TERMINOLOGIES—VARIETIES AND TYPES

Like Gilreath, Buchan concerns himself with multiple meanings of terms in his article "Distinguishing between Terms and Meanings of Terms," placing his primary emphasis on the role of term ambiguity and scope identification in controlled vocabularies and other documentation mechanisms designed for information retrieval.

Eck and Meyer join Strehlow in invoking the spirit of Aristotle in their presentation "Bringing Aristotle into the 20th Century: Computer-Assisted Definition Construction in a Terminological Knowledge Base." Their discussion centers on the inconsistencies that often occur with respect to genus and differentia in definitions that are created without benefit of supportive knowledge management tools.

In conjunction with efforts on the part of the Terminology and Documentation Directorate of the Canadian Translation Bureau to broaden its scope to include more multilingual terminology, Hutcheson examines the varying layouts and methodologies reflected in multilingual terminology resources in her presentation "Preparation of Multilingual Vocabularies."

On another highly practical note, **Greenwald's** paper, "A Construction Industry Terminology Database Developed for Use with a Periodicals Index," describes the structures and procedures used in a terminology database designed specifically for use in an indexing environment.

HARMONIZATION IN A MULTILINGUAL ENVIRONMENT

Galinski describes "Exchange of Standard Terminologies within the Framework of the Standardized Terminology Exchange Network (STEN)," underscoring the concerns related to the sharing and merging of proprietary data in an international setting, while at the same stressing the value-added benefits to be accrued by creating multilingual terminology products.

Unfortunately not included in this collection, **B. D. Smith's** "Terminology for National Development: The Malay Dilemma" examined both the successes and failures of language planning and the structured introduction of technical terminology in the Malay language region.

Also not included here, **E. H. Steve** presented a paper entitled "The Linguistic Affix Discipline Clarifies Technical Writing," which documented his support for Ido, a dialect of Esperanto, as a vehicle for technical communication.

COMPUTER-AIDED TERMINOLOGY WORK

Shreve's contribution, "SGML Representation of Concept Systems: Identifying, Tagging, and Retrieving Term Concept Structures in a Textual Context" discusses the way that terminology is presented in a structured way within texts and demonstrates a proposed methodology for using Standard Generalized Markup Language (SGML) to tag these structures and to link the information embodied in them to other functions (such as terminology databases) within a knowledge-base system.

Wright's "Creating a Data Element Dictionary for Computer-Aided Terminology Work" describes the structure and procedures adopted by the International Organization for Standardization's Technical Committee 37: Terminology (principles and coordination), Sub-Committee 3, Computational Aids in Terminology (ISO/TC 37/SC 3), in collecting and documenting a master list of data element names to be used in the exchange of terminological data.

"Implementing the Terminology Interchange Format," **Melby's** contribution to the symposium, describes the procedures and potential problems involved in preparing data for conversion using the Terminology Interchange Format (TIF) currently under development by ISO/TC 37/SC 3. Melby documents the specific steps involved, as well as procedures for addressing both architectural and data element concerns, as well as character-set problems attendant to the interchange of terminological data between programs and hardware platforms.

ROUNDTABLE DISCUSSION

Following introductory comments by Meyer, Wright and Strehlow, the participants in the symposium demonstrated a keen understanding and vital concern for the problems facing terminology harmonization in today's volatile information market. Because of the high quality and synergy reflected in this exchange of ideas, the editors have left as much of this discussion intact as possible for the benefit of both those readers who would like to refresh their memories and those who were unable to attend the session.

APPENDIX—TERMINOLOGY UPDATES

Terminology Updates are a periodic feature of ASTM's monthly publication *Standardization News*. Although these items are not subjected to the same rigorous peer review process as the articles included in the main body of this STP, they are checked by the *Standardization News* staff and do offer insights of value to ASTM members involved in terminology work. The Updates included here encompass those items that have appeared since the publication of *ASTM STP 1166*.

INDEX

Last, but by no means least in a volume devoted to information management via terminology management, symposium co-chair Strehlow has provided a well thought-out index to this volume, which it is hoped will assist the user in more effectively accessing the information contained here.

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- [2] *Standardization of Technical Terminology: Principles and Practices. Second Volume*. ASTM STP 991. R. Strehlow, Ed., American Society for Testing and Materials, Philadelphia, 1983.
- [3] *Standardizing Terminology for Better Communication: Practice, Applied Theory, and Results*. ASTM STP 1166. R. Strehlow and Sue Ellen Wright, Eds., American Society for Testing and Materials, Philadelphia, 1983.

- [4] *Compilation of ASTM Standard Definitions*. 7th ed. ASTM, Philadelphia, 1990.
- [5] Gilreath, C. T., "Onometrics: The Formal Evaluation of Terms," *Standardizing Terminology for Better Communication: Practice, Applied Theory, and Results*. ASTM STP 1166. R. Strehlow and Sue Ellen Wright, Eds., American Society for Testing and Materials, Philadelphia, 1983, pp. 75 - 94.