

Consumer Information Series

The many thousands of papers produced by NIST/NBS in the past century have mainly been technical in nature, directed to an audience of research scientists and engineers. Some, of course, were issued in a form more readily understandable to a wider audience, but were focused on groups of individuals with a particular interest in the subject matter. It is roughly estimated, however, that only a tiny percentage of our publications were written specifically with the consuming public in mind in order to make technical results generally available for their practical value to all citizens. The utility of these publications aimed at the general public is attested by the fact that hundreds of thousands of them were ordered by keenly interested consumers.

One of the earliest example of a publication designed for the public at large was the 1922 Circular [1] on constructing a radio, described elsewhere in this volume. In the following years, especially during the 1930s and 1940s, the Bureau had occasion to conduct tests of various types of material and then made selected reports available from the Government Printing Office at low cost. Many of these [2-9] had limited audiences, but a few [10, 11, 12] had broad appeal to homeowners and potential homebuyers. *Thus How to Own Your Own Home* [11] sold 300,000 copies in 1923, and *Care and Repair of the Home* [12], which drew fire from private sector business interests, sold more than 500,000 copies between 1931 and 1940.

The early 1970s saw an explosion of consumer activism in the United States, leading to the establishment of such Federal agencies as the Consumer Product Safety Commission (CPSC). In response to a Presidential order, the Bureau formed a Center for Consumer Product Technology (CCPT) with divisions for product engineering, product systems analysis, product safety, and law enforcement standards—and with a dedicated mission to provide useful information to the general public. Guides in the Consumer Information Series (CIS) [13-22] were prepared by Bureau experts and CCPT staff. These booklets were distributed in very large numbers and at very low cost through the Government Printing Office and by the Consumer Information Center in Pueblo, Colorado. (Fig. 1)

A special foreword in each publication, by the NBS Director, called attention to technological changes that affect products and the marketplace; the confusion that stems from the proliferation of products and materials

about which the shopper has little useful information; and the availability of results from the technical work that should be shared with the citizens who, after all, support the Bureau's work with their taxes.

The first Guide in the Series, NBS CIS1 *Fibers and Fabrics* [13], provided a detailed account of both natural (i.e., cotton, linen, silk, and wool) and 16 man-made fibers, describing for each material its properties, uses, and appropriate care. It also discussed blends and combinations, as well as the features of wash-and-wear fabrics. The information was presented in a form to facilitate user selection of fabrics that would satisfy personal needs and desires. In addition, the laundering or dry-cleaning recommendations and the susceptibility of some fabrics to flammability or application of excessive heat were probably of equally great value. A glossary defined the terms used to describe the manufacturing processes and attributes of the cited materials, and a table of trademarks of commercial synthetic materials, obtained from listings of the Federal Trade Commission, aided shoppers when encountering generic fabrics otherwise identified only by trade names.

How to Own Your Own Home sold 300,000 copies in 1923, and *Care and Repair of the Home*, which drew fire from private sector business interests, sold more than 500,000 copies.

Tires—Their Selection and Care [14] gave the automobile owner or driver a well-illustrated tutorial on the kinds (not brands) of tires available and how they should be chosen and maintained for optimum safety, efficiency, and cost savings. In addition to describing tire care and tire construction and features, the Guide addressed the factors that should influence tire selection, plus driving habits and effects that depend on the chosen tires and their care. Moreover, the publication pointed out that there was then no reliable system for grading tires in terms of *quality*, a situation that still prevails.

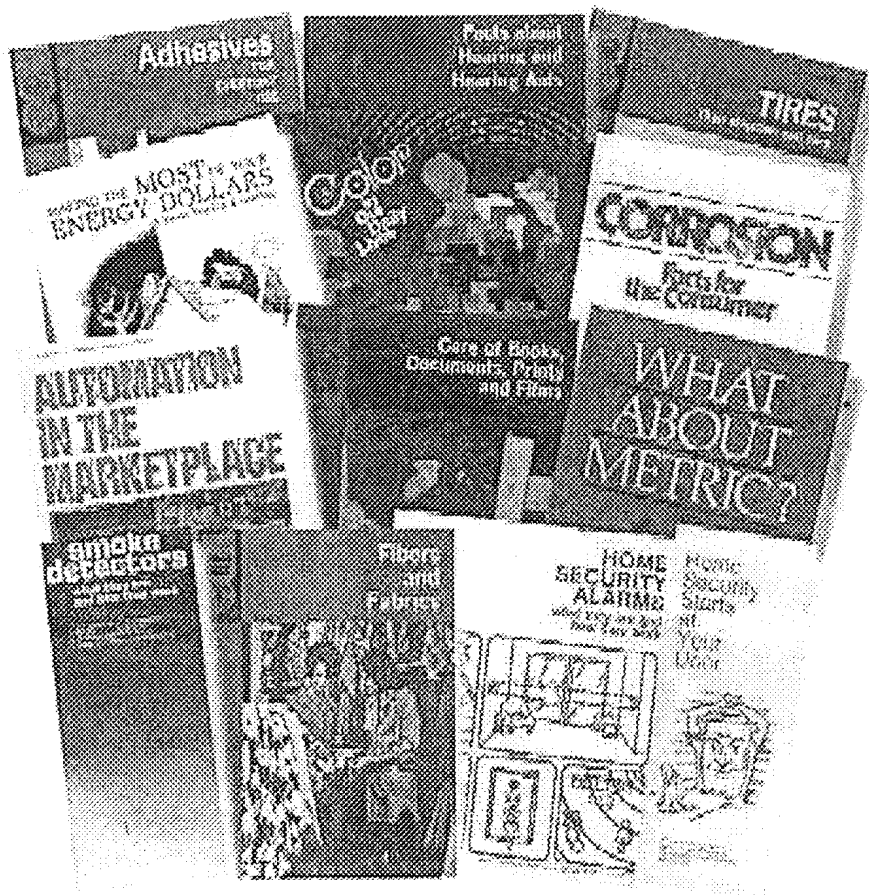


Fig. 1. Covers of booklets in the Consumer Information Series and other typical pamphlets intended for use by homeowners.

Information needed for selecting and applying adhesives for use in the home and hobby shop was made available in *Adhesives for Everyday Use* [15]. This practical guide described the different types of adhesives and their characteristics, along with typical applications for the various materials that are to be bonded and the end use of the application. It also illustrated and outlined the steps that should be taken when preparing the materials, applying the adhesives, and ensuring a strong bond.

Facts About Hearing and Hearing Aids [16] was prepared by NBS specialists in sound and testing, with assistance from a number of other agencies concerned with audiology (the science of measuring hearing capability) and the medical aspects of hearing and its loss. It gave a comprehensive description of the hearing process, the causes and treatment of hearing loss, and steps that might be taken to compensate for such loss, including the availability of well-described types of hearing aids then on the market. The guide offered suggestions on how to select a hearing aid, how to use it, and proper maintenance and care.

Based on Bureau research on paper and photographic film, *Care of Books, Documents, Prints and Films* [17] explained the composition and kinds of paper, and preservation techniques. It covered the nature of books and documents, the factors that degrade them over the course of time, and recommended methods of caring for them, as well as techniques for making minor repairs, letting professional restorers carry out major repairs and restoration of damaged books and documents. This guide also offered a short section on the appropriate care for photographic films, negatives, and prints.

A beautifully illustrated (in color, of course!) guide, *Color in our Daily Lives* [18], was one of the most popular publications in this series; it was distributed to classrooms across the country and to the general public. In easily readable textbook fashion, color was related to light, and families of color hues were shown for each of red, green, blue, and yellow. Similarly, there were illustrations of families of dark, light, vivid, and grayish colors; relationships among different colors with respect to hues, lightness, and vividness; and the influence on perception of colors when juxtaposed with other colors.

Color harmony, the use of colors by individuals (for cosmetics or apparel) or in various environments, and suggestions for experimentation were other topics included in the guide.

Starting in 1973, when *What About Metric?* [19] was published, the Bureau began a long, continuing campaign to acquaint the public with the decimal-based metric system, which was then being adopted by the rest of the world; more recent examples from the metric program are described elsewhere in this volume. The CIS Guide explained why metric was being adopted in almost all countries; the differences between customary (such as inches and pounds) measurements and those in the metric system (e.g., meters and grams); and how to convert from one system to the other.

The energy crisis of the early 1970s had a major impact on consumers as a result of fuel shortages and increasing fuel costs. Homeowners and renters were influenced to turn down thermostats and to wear extra clothing in the house, while at the same time considering longer term techniques for maintaining comfortable living conditions yet simultaneously saving money. *Making the Most of Your Energy Dollars* [20] presented information on the value of increasing different types of home insulation and the economic and climatic factors that should be considered in determining whether and how much to invest for these purposes. The guide offered sample worksheets for background calculations and referred readers to several available “How To” publications.

Corrosion of metal, which exacts a heavy economic toll on consumers and the nation, has long been a subject of study at NBS/NIST. Useful advice was therefore put together for the guide entitled *Corrosion—Facts for the Consumer* [21]. This publication described the different types of corrosion, how to prevent or minimize it, where it occurs most frequently around the home and the automobile, how to remove corrosion when it occurs, and what protection techniques to look for when buying metal objects.

By the end of NBS/NIST’s first century, almost everyone had become aware of and was gaining the benefits from bar code scanning, automated teller machines, and other now-commonplace reliance on computerization in daily life. However, in 1978 these “magical” systems were mysterious to most folks, but were explained to the public in the guide entitled *Automation in the Marketplace* [22]. Simple language described the Universal Product Code and the use of laser bar code scanners and electronic cash registers connected to computers. It set forth the advantages to consumers of automated systems installed in groceries,

retail stores, and banks, and alluded to NBS research in encryption to protect privacy and ensure security.

The foregoing summaries reflect not only a small subset of the institution’s broad research programs, but also the impact that the results can have on the knowledge base for the citizenry. In particular, these publications—as well as small brochures such as those for smoke detectors, home security, and home security alarms [23-25]—contained information that could be used immediately by all readers for practical purposes. Although the Consumer Information Series no longer exists *per se*, similar information is still provided to the general public through various releases to mass media and resultant publicity.

The NBS authors whose CIS guides are listed in the bibliographic citations that follow evidence the wide range of technical talent characteristic of the NBS/NIST staff during its first century. Josephine M. Blandford was a senior NBS textile technologist responsible for research on evaluation and quality control of textile materials and apparel components, with two books published by the Apparel Research Foundation, Inc. F. Cecil Brenner, was a fiber scientist who served as Chief of the NBS Textile and Apparel Technology Center, then as the Tire Systems Division Chief at the National Highway Transportation Safety Administration’s Safety Research Laboratory, and later a consultant to the Environmental Protection Agency. He developed the government standard for tire safety and performance.

Karl F. Plitt was Chief of the Product Engineering Section, responsible for testing and research into safety and performance characteristics of products used by fire and law enforcement officials and the consuming public, including adhesives, plastics used for safety goggles and helmets, and children’s toys. Edith L. R. Corliss, trained in physics, performed research in electricity, optics, and astronomy before becoming an expert in acoustics, measurement of hearing, and speech communications systems. William K. Wilson, a chemist, was Chief of the Paper Evaluation Section for 15 years, then a guest worker at the National Archives. [J. L. Gear was on the staff of the National Archives.]

Deane B. Judd, trained as a mathematician and physicist, was Assistant Chief of the Optics and Metrology Division and in charge of the Bureau’s colorimetric work. His many awards included gold medals from the Department of Commerce and the Illuminating Engineering Society and recognition by the Society of Motion Picture Engineers, the Inter-Society Color Council, and the Optical Society of America. Louis E. Barbrow, a physicist who served as Chief of the Photometry and Colorimetry Section and Chief of the Optics Metrology Branch, later coordinated metric activities

at NBS and served as a consultant to the National Conference on Weights and Measures.

Madeleine Jacobs, a chemist who later became Editor-in-Chief of the American Chemical Society's *Chemical & Engineering News*, served in the NBS Office of Information Activities and was later Director of Public Affairs at the Smithsonian Institution. Stephen Peterson was an economist who conducted extensive research in the area of building economics.

Jerome Kruger, Chief of the Corrosion Section of the Metallurgy Division, was a chemist whose research work led to receipt of Silver and Gold Medals from the Department of Commerce, the NBS Samuel Wesley Stratton Award, as well as awards from the National Association of Corrosion Engineers, the British Institute of Corrosion, and the Electrochemical Society. Shirley Radack, a Supervisory Computer Specialist, managed program coordination and support activities for the Institute of Computer Science and Technology (ICST) at NBS and was responsible for review and approval of Federal Information Processing Standards and for outreach activities with the public and private sectors. Grace Burns was a special assistant to the Director of ICST.

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