

# Introduction

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The field of sensory evaluation of materials is increasing in importance because of the present economic emphasis on consumer needs and wants. Foods are one line of products which obviously are rated critically on the sensory responses of human beings. There are many other materials which consumers use, however, in which human preferences and human responses are of major importance.

The papers in this publication deal with the human evaluation of the appearance characteristics of these various materials. It was planned and sponsored by ASTM Committees E-12 on Appearance of Materials and E-18 on Sensory Evaluation of Materials and Products. Committee E-12 is concerned primarily with direct physical measurement of properties, such as tristimulus color, which are related to human vision by established formulas. Committee E-18, on the other hand, works with statistical techniques for relating physically measured attributes to human responses by correlation and regression analyses.

One purpose of the symposium was to report the state of the art in psychophysical analyses of appearance; that is, methods of correlating physical measurements of light with sensory ratings of appearance. Another purpose was to provide a forum for describing recent developments and trends in these areas.

The symposium was planned to include the following topics: (1) mechanism of vision, (2) psychology of appearance of materials, (3) estimation of subjective impressions, (4) correlation of the objective facts with subjective impressions, and (5) anomalies, pitfalls, problems, and a look at the future. Speakers were invited and obtained from outside, as well as from within ASTM.

We believe that the papers presented in this publication will be of interest and value to anyone concerned with color or other aspects of appearance of foods, beverages, textile fabrics for clothing and furnishings, plastics, paint and other coatings, architectural materials, paper, and other products. Psychologists, educators, scientists, those in the advertising, marketing, market research fields, and others concerned with consumer responses should be interested.

This publication contains two state-of-art-papers. One gives a picture of the eye as the device for converting light to signals for analysis by the brain. The second is an up-to-date summary of what ASTM has accomplished in the development of consensus approved methods for measuring appearance attributes by instrument.

Two of the papers are concerned with appearance ratings of foodstuffs; one with visual preferences in textile materials; and several with the complex statistical techniques used to establish relationships between human judgments and physically measureable variables. Thus, two of the papers are concerned only with statistical methods, not with appearance. The question of how to assess important aspects of visual appearance is approached from a number of viewpoints in the papers.

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