The chapter on "Principles of Formulation and Production" is a propaedeutic for paint manufacture. It discusses the relationships of vehicle, pigment, and additives and reviews all of the important commercial equipment used to combine these ingredients into paint. While again the limitations of space prohibit an exhaustive treatment, there is probably no better source for the neophyte to acquaint himself with the subject and even veterans may profit by the organized presentation.

The next chapter, "Preparation of Surfaces and Methods of Application," is indispensable for those who would understand the importance of applied rheology. Probably in no other industry are the demands on theory of flow as great. The multifarious methods and apparatus used to apply coatings to a wide variety of substrates are all discussed here in sufficient detail to allow a fundamental appreciation of the problems and difficulties likely to be encountered. Even the newer types of equipment such as curtain coaters are included.

The last three chapters cover formulation of architectural, industrial, and resistant coatings. Here the billions of words that have been written in patents, trade journals, and manufacturers' bulletins have been carefully edited and distilled. Certainly no one interested in the utilization of polymers could find a better survey of paint products as they are consumed by our complex civilization. Those unfamiliar with coatings will be impressed by the variety and intricacy of some of the end uses. Even chemists with years of specialized experience can profit by reviewing the progress in related applications.

The book closes with a combined index for Volumes I and II which are paginated consecutively.

Organic Coating Technology can be unqualifiedly recommended to all who are in any way interested in paint.

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ERRATUM

A Proposed Method for Estimating Polymer Molecular Weight Distribution Without Fractionation

(*J. Appl. Polymer Sci.*, **4**, 95, 1960)

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Equations (9) through (12) contain a mathematical error which on correction yields

$$w_s = \{a^{1/b} b M_0 \Gamma[2 - (1/b)] - b\rho\}/(M_0 - b\rho) \quad (10')$$

$$b = M_0(w_{s1} - w_{s2})/[\rho_2(1 - w_{s2}) - \rho_1(1 - w_{s1})] \quad (11')$$

and

$$a^{1/b} = [w_s M_0 + b\rho(1 - w_s)]/bM_0[2 - (1/b)] \quad (12')$$

However, application of these corrected equations to the data of Tables I and III gives b values some 10^3 as large as the literature values cited.

In order to determine whether the Tung function might in some way be responsible for these unacceptable results, we have repeated the derivation, using the Schulz distribution

$$w_y = [z^{k+1}/\Gamma(k + 1)]y^k \exp\{-zy\} \quad (2')$$

instead of eq. (2). Here the parameters are related to the number- and weight-average degree of polymerization by

$$z = k/\bar{P}_n = (k + 1)/\bar{P}_w \quad (2'')$$

When eq. (2') is inserted in eq. (1), along with the approximation $[1 - \rho(1 - w_s)]^y \cong \exp[-y\rho(1 - w_s)]$, and the summation is changed to an integral with zero lower limit, we obtain

$$(w_s)^{1/(k+1)} = z/[z + \rho(1 - w_s)] \quad (14)$$

Simultaneous solution of the equations obtained by substituting two sets of experimental values of ρ and w_s into eq. (14) yields z for any chosen value of k. Substitution of z and w_s (exp) into the right member of eq. (14) yields a calculated value of the left member. By plotting $[w_s(\text{calc.})/w_s(\text{exp.})]^{1/(k+1)}$ against k, one can obtain the k value at which w_s (calcd.) = w_4 (exptl.). Application of this method to the crosslinked polystyrene data of Table III yields $k = 0.42$ and $z = 1.18 \times 10^{-4}$. The $\bar{M}_n$ value obtained by substituting these parameters into eq. (2'') is 370,000; this agrees fairly well with the value of 300,000 reported by Boyer and Spencer for their polystyrene made without addition of divinylbenzene to the polymerizing system. The polydispersity ($\bar{P}_w/\bar{P}_n$) according to eq. (2'') is 3.4. Boyer and Spencer did not report a value for this quantity, but our value is higher than that (1.4) reported by Booth and Beason for a different sample of polystyrene. Application of the present method to the SBR data of Table I failed to yield any positive value of k which satisfied the data. We are unable to explain this result at present.

We are indebted to Dr. A. M. Kotliar for bringing the above error to our attention, and for several valuable suggestions.