PROLOGUE

'Capability' Brown, a famous British Landscape gardner, owed his nickname to the habit of surveying the extensive grounds surrounding some country mansion, and commenting that they were capable of considerable improvement. Since their discovery, it would appear that reactive dyes have been similarly regarded; for no other class has received the attention these dyes have from the view point of discovering improved members and methods of application. Reactive dyes, though a late entry into the family of synthetic dyes, very soon attained a commercial status. There is no slackening of activity in this field as seen from the large number of patent specifications and several ranges which continue to appear in the market.

Reactive dyes, as a group, have made it possible to achieve a wide variety of fast, bright shades in dyeing and printing, hitherto unknown.

It was for the first time that dyeing has been done by a chemical reaction between the dye and the fibre, enabling one to get an assortment of bright, attractive

shades of adequate fastness, with considerable ease of dyeing. A new vista, therefore, opened up for the production of spectacularly new shades and considerable advances have been progressively made in the chemistry and technology of this class of dyestuffs, so that not only cellulosics but the other types of fibres too could be dyed by a similar chemical reaction.

Though reactive dyestuffs were introduced as late as 1952, they have come to occupy a pride of place among dyestuffs used for cellulosics. These dyes have been discussed at great length, both with respect to theory as well as practical application, even then the subject still holds such a great fascination amongst the researchers that it is never stale.

It is in this background that a research project entitled " STUDIES IN REACTIVE DYES " was undertaken and the findings of the work is presented in the following pages.

In the first chapter, a brief review on reactive dyes and other background material is discussed. This chapter is followed by chapter on experimental work. Detailed procedures for synthesis of reactive coupling

components and reactive dyes and dyeing of cotton and wool by reactive azoic as well as reactive dyeings are presented in this chapter.

The third and final chapter concerns with results and discussion. The results are presented in tabular forms and are discussed with the relevant references. The newly synthesized reactive dyes are characterised and their dyeability to cotton and wool is investigated.

There is no art which depends so much on chemistry as dyeing, yet its principles are by no means established, neither are the facts connected by a satisfactory theory; but as chemists are now becoming dyers and dyers chemists, one hopes that these problems on the fundamental site, will be investigated thoroughly. Rattee reminded us that "reactive systems producing dye-fibre bonds are only means to an end and not an end in themselves". What remains to be achieved is an understanding of the mechanism related to reactive dyes, which awaits more and more experimental results.