Ageing and stabilisation of paper

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Preface

Paper is a material, which is often taken for granted – hardly any user is aware of how complex and variable material it actually is. Even fewer are informed of problems with its durability. Much of the information on paper is perhaps not meant to be long-lived in this day and age. Yet, among all information carriers it remains the most durable and printed or written information is still the most generally understandable.

It is the obligation of many libraries, archives and museums worldwide to continuously provide access to the information and its carrier. Since the quality of paper varied considerably through centuries, problems with its preservation are equally varied. Acidic paper, produced roughly between 1850 and 1990 is among the most pressing topics. Its remaining lifetime possibly reduced to a mere century (as demonstrated in this book), the real danger exists that much of the written knowledge generated in this era of social, artistic, scientific and political turmoil will become obliterated. Will the 20th century become a new dark age in five hundred year's time?

Perhaps not, if appropriate actions are taken. The mission of this book is to provide the foundation on which the conservation chemist will be able to design and test conservation treatments. Descriptions of the necessary research methodology, general knowledge of paper degradation pathways and possibilities for stabilisation are summarized. Cellulose, the main structural component of paper, is a macromolecule, so it can be regarded from a wider perspective – chapters on degradation of polymers in general are also provided.

It is wished that the book will thus aid not only the conservation chemist, but also students of polymer and paper chemistry and of material science on the whole. Especially the concluding chapters should be of interest also to the conservation practitioners and the responsible officers.

This book is the result of much enthusiasm and scientific excellence of all the contributors, many of which took part in the innovative project Papylum – "Chemiluminescence – a novel tool in paper conservation studies" which ran from 2001 to 2004. We are deeply indebted to all. With particular gratitude, however, we welcomed the participation of A. Barański, J. B. G. A. Havermans, J. M. Łagan, T. Łojewski and T. A. G. Steemers, who made it possible for the book to grow far beyond what was initially planned.

Through the 5th Framework programme, the European Commission provided vital support to research on many important subjects covered in this volume. It is not possible to overestimate its crucial role in bringing together relevant experts working together on the subject of research into preservation of cultural heritage. Therefore, we express our belief and expectation that the support will continue in future research programmes.

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Contents