Foreword

In this book, I present images obtained through my research into the materials science of fine arts, crafts, and cultural artifacts. Many of the materials around us have attractive fine structures in which several types of atom are regularly ordered in a complicated manner. Such structures are also found in the materials used in fine arts, crafts, and cultural artifacts. The purpose of this book is to give readers a chance to enjoy the beauty of the fine structures hidden in arts, crafts, and cultural artifacts from their images, and to inform readers of the natural science underlying these cultural artifacts.

Civilization began when human beings started using tools. Along with the development of tools, knowledge of tools became increasingly widespread and advanced. The advanced civilization we enjoy today is a result of these developments in history. Therefore, cherishing our historical legacy is an important task that will lead to the further development of civilization in the future. Considering the fact that much of our historical legacy is in the form of materials, the contribution of natural science to their preservation is of utmost importance. In addition, fundamental research on materials and the results obtained should be applied to the advanced technologies used for the restoration of historical artifacts. I hope that the research results introduced in this book will be helpful for this purpose.

This book contains information on metals, ceramics, woods, paintings, and dyes. The research on each topic is future-oriented, in other words, the ideas and methodologies used in the research will be indispensable in future research. This book is titled "Beauty of Arts", and its aim is to reveal the beauty of cultural artifacts from the viewpoint of materials science. Moreover, the promotion of Japanese culture overseas and international exchange in the interdisciplinary field of art and natural science is also an aim of this book. I will be pleased if you have a greater understanding of the various roles of natural science after reading this book.

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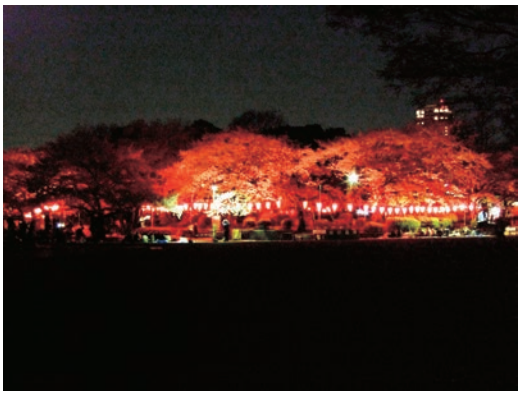

訪ぬれば　上野は花の賑わいや
　　細道辿り　学び舎に入る

When I visited,
Ueno Park was crowded for
Cherry blossom festival,
Then I walked along a lane,
And found my new laboratory.

At the laboratory（1997）