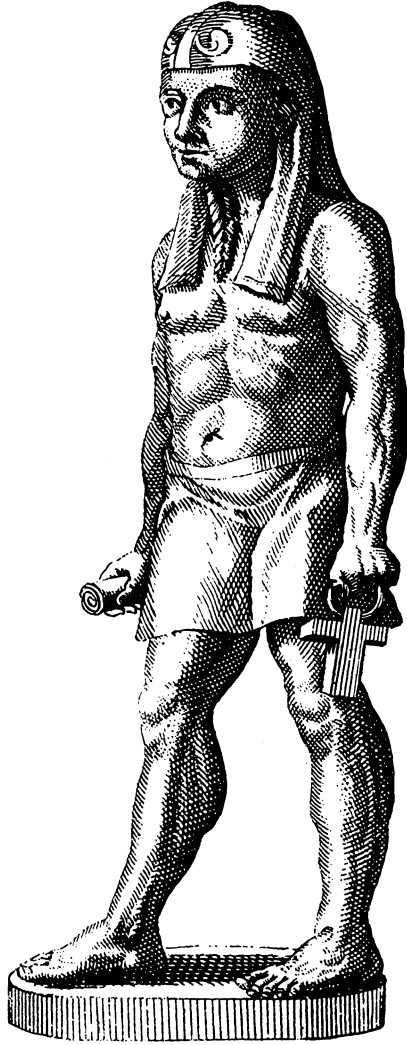


**MORTUARY SCIENCE**



*Frontispiece.* Osiris—God of the Underworld, King and Judge of the Dead.

# MORTUARY SCIENCE

*By*

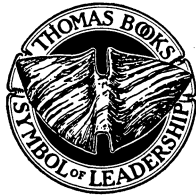
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*To my dear wife JERYL and daughter  
JERYLANN for their devotion, en-  
couragement and patience*



## FOREWORD

The progress made in this country in the past half century in the handling and care of the dead body has been a little short of phenomenal. This has been especially true concerning those procedures centering around the matter of preservation. Death might be due to any number of factors, many facilitating decomposition of the body. This would violate the aesthetic feelings that are rightfully of such major concern to the immediate relatives and friends of the deceased.

Dealing with the proper preservation of the dead for the emotional satisfaction of the living is only one phase of a broader problem. With the change and progress in our social patterns created by other and more pragmatic demands in this field, there has been created, during these past few decades especially, an impelling need for improvement in the care and preservation of the human dead.

As is often the case, an increasing need begets an improved methodology, especially if such a need can be met by the application of the scientific method. This book, it is felt, is an excellent example illustrating how scientific techniques can be put to work to aid in solving the need for sound methods for preservation of the dead human being.

This book should be especially valuable to the embalmer who frequently faces many technical problems arising from a complete autopsy, especially if it be done for medicolegal purposes. As a pathologist, long sympathetic to the problems of the embalmer, it would seem that the author's mission has been to put within reach of the average embalmer, the available knowledge of the subject, in order to enable him to meet this and other needs in his field.

If the author succeeds in his mission, then he will have removed once and for all the familiar obstacle of strained relationships between the pathologist, who must meet the scientific demands posed by the autopsy, and the embalmer, who in turn must meet

the technical needs of his field, if he is to satisfy the family, upon whose good will his success depends.

The author is to be congratulated in preparing a work of this kind. It embodies the virtues of good writing, ranging as it does from the historical past to the immediate present and presages well for the foreseeable future, where added knowledge might be expected from the stimulation this volume should provide to the workers in this growing field.

THEODORE J. CURPHEY, M.D.

*Coroner*

*Los Angeles County*



## PREFACE

THIS monograph has been written principally to familiarize the Embalmer, Autopsy Technician, Anatomy Preparator and those associated with the field of Mortuary Science, with the basic principals and techniques employed in embalming, autopsy examination and anatomical preparations.

For many years the author has felt that by correlating the three divisions of mortuary technique under one heading, and in one monograph, the efficiency and experience of the embalmer and technician could be greatly enhanced.

While the author has mainly relied upon his own personal experiences in the preparation of the subject matter contained in this monograph, he has freely used the techniques and methods developed over the years by other investigators and technicians, most of whom have, unfortunately, been lost to posterity.

*F. C. G.*



## ACKNOWLEDGMENTS

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*F. C. G.*



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**MORTUARY SCIENCE**



*Part I*

DEATH



## *Chapter 1*

### DEATH

DEATH, whether due to natural or unnatural causes, occurs in two cycles; first, Somatic Death which is death of the whole body due to the complete cessation of the respiratory and circulatory system, followed secondly by Molecular Death, which is death to the cells and tissues.

Immateral of the primary cause of death, the phenomena of death may be categorized under one of three headings:

1. coma, whereby death begins in the brain.
2. syncope, whereby death begins in the heart.
3. apnoea, or asphyxia, whereby death begins in the lungs.

#### 1. SIGNS OF DEATH

The principal signs of death are the complete cessation of function in the respiratory and circulatory system. Both systems do not necessarily cease to function at the same time. This is often illustrated in cases where asphyxia is the primary cause of death. In such cases the heart will continue to beat for three or four minutes after respiration has ceased, therefore, auscultation of the heart and lungs for a period of approximately twenty minutes should be maintained before rendering a decision.

To Determine the Cessation of Respiration:

- (a) Auscultation with the use of a stethoscope for at least ten minutes.
- (b) Place a mirror in front of the nose and mouth, note the presence or absence of moisture.
- (c) Place a saucer filled with water on the upper quadrant of the abdomen, note the presence or absence of rippling.