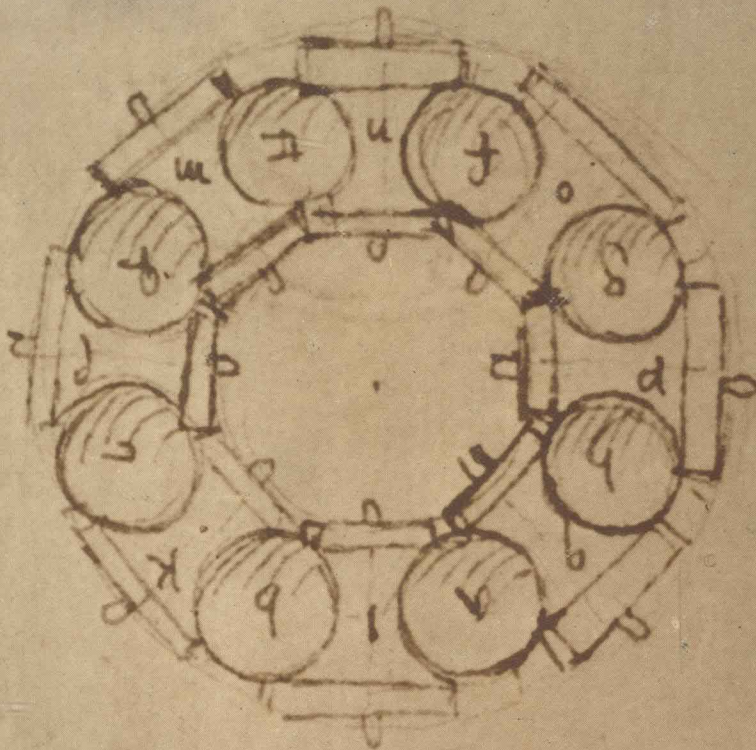


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PRINCIPLES OF PHYSICS

F. BUECHE

Third Edition

PRINCIPLES OF PHYSICS

Third
Edition

F. Bueche

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PREFACE

The wide acceptance of the previous editions of “Principles of Physics” has provided a valuable resource, the critical comments of its many users. In preparing the third edition, comments have been solicited from both faculty and students and as a result many changes have been made although the basic features of the previous edition have been retained. The major changes are as follows.

All problems have been reexamined. Previous problems have been modified where necessary, and many new problems have been added. Many of the new problems deal with topics of interest to students in the biological sciences. The problems are classified into three groups—ordinary difficulty, medium difficulty, and difficult. In keeping with increasing student familiarity with the metric system, the British system of units is further deemphasized, being used only in the earliest sections of the text while the student is becoming accustomed to work in physics.

Many sections and chapters have been rewritten in the interest of clarity and increased appeal to the students. Although these changes have been so extensive that it is impossible to point them all out here, three of these should be mentioned: (1) Some teachers prefer to discuss statics early in the course. Others prefer to defer the treatment of rigid bodies until later. Both approaches may be used with this text. Statics of rigid objects is discussed in the first part of Chap. 9, but this topic and the end-of-chapter material which applies to it are designated so that they may be taken up as the last portion of chap. 1 if desired. (2) The material on thermodynamics has been expanded into a new chapter. (3) Although relativity is discussed briefly early in the text, the major portion of this discussion has been rewritten and moved to Chap. 26. You will notice many other beneficial changes as you compare the second and third editions.

The teaching effectiveness of the text has been increased in several ways. Each chapter has been provided with a list of Minimum Learning Goals, a chapter Summary, and a checklist of Important Terms and Phrases. The popular Questions and Guesstimates have been retained. A new feature is the technique used in the body of the text to point out important sentences and phrases. It, in effect, carries out the underlining chore used so successfully by many of the better students. Now even the student unskilled in underlining important concepts is provided with this valuable learning aid.

Many faculty and students have contributed to this new edition by their comments. I am indebted to them. Three persons contributed extensive detailed reviews, Professors Gerard P. Lietz, Marlo R. Martin, and George W. Parker. Their help is greatly appreciated. Suggestions that you may have for further improvement of the text will be welcomed. I am also grateful to my wife, Phyllis, for her aid in preparing the manuscript.

F. Bueche

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