ters. The first two chapters provide a theoretical background for the use of ergogenic aids by athletes. Chapter 1 gives the reader a broad overview of ergogenic aids in sport. Chapter 2 focuses on human energy, which is the key to athletic performance and the means by which ergogenic aids might help the athlete. The remaining five chapters focus on five general categories of ergogenic aids. Chapter 3 covers nutritional ergogenic aids, such as carbohydrate loading; Chapter 4 deals with pharmacological ergogenic aids, such as stimulants and depressants; Chapter 5 analyzes the research with physiological ergogenic aids, such as blood doping; Chapter 6 focuses on psychological energizers and tranquilizers; and Chapter 7 discusses mechanical and biomechanical ergogenic aids, such as sportswear and sports equipment.

In the last five chapters the discussion of each special aid has three parts. First, the theoretical basis for the use of the aid is indicated. (In other words, how the aid is supposed to modify energy utilization in order to improve performance.) Second, a summary of the key scientific research findings is presented. Finally, a general recommendation is offered.

It remains to be said that all chapters are provided with a detailed list of selected readings — split into books and reviews — for those who want to delve deeper into certain aspects of this book’s topic.

All in all, Beyond Training is a very well thought out book which affords the reader a refreshingly lucid review of the present state of play in an extremely topical area of sport science. Fairly complex sport-medicine information is rendered quite digestible. In my opinion the chief merits of Beyond Training are that it clearly shows that there is only a very small gap between legal and illegal ways of enhancing athletic performance and that it gives a clear, scientifically supported statement on which side should be preferred.

This book would certainly prove a very useful addition to every athlete’s and coach’s library.

Jürgen Schiffer

SPORTS TRAINING PRINCIPLES. SECOND EDITION
Frank W. Dick

According to NSA Advisory Editorial Board member and BAAB Director of Coaching Frank Dick, coaching is mainly an art, the coach being comparable to an artist. The two essential attributes a coach should have are creative flair and technical mastery of the instruments and materials used.
i.e. the athlete. It is indispensable for the coach to clearly understand the purpose of each training form and its relevance to the total scheme of preparation. He therefore must move towards a deeper appreciation of those sciences which relate to the athlete. These sciences are: biomechanics, medicine, psychology and the theory of motor learning.

The first half of Sports Training Principles is devoted to giving the reader an insight into the basics of these sports-related sciences.

Part 1 looks at the skeletal and muscular system and the mechanical laws which they must obey. The author’s objective is to effect an appreciation of the athlete’s aggregate movement potential for the expression of energy.

In Part 2, the production of energy, which is necessary to give the skeletal and muscular structures movement, is considered in detail, as is the collective involvement of several other systems: digestive system, oxygen transport system, respiratory and circulatory systems, fluid and endocrine system.

In Part 3, Dick examines some factors influencing the athlete (social environment, personality, emotions, motivation) before dealing with fundamentals of technical training, motor learning and motor development.

The second half of Sports Training Principles entirely deals with what this book is really intended to be about, namely training theory.

Parts 4 and 5 seek to draw together the practical implications of what has been said in the first part of the book. By considering these implications against a backcloth of practical expertise they are applied to the development of the athlete.

In Part 4, a framework of definition and explanation is set out to establish a sound basis in the terminology aspect of training theory. After this, the concept of fitness is examined as it applies to all lifestyles. The major components of fitness — strength, speed, endurance and mobility — and their derivatives are brought into focus. The final chapter of Part 4 is about evaluation, which is critical to the ordered progression of training and fitness.

In the final section of the book, Part 5, Dick sets out the principles of programme planning in pursuit of the objectives of periodization, by considering the structure of loading and the division of training into units and cycles for the various phases of the training year.

As far as this part of the book is concerned, one critical remark may be allowed: When presenting the fundamentals of training periodization, Dick refers exclusively to the work of L.P. Matvejev. Although Matvejev surely is the person who originally advanced the modern theory of structuring the training process into clearly defined phases, more recent variants of training periodisation developed by Soviet training scientists (e.g. Bondarchuk and Verchosanski) or German experts in this field (e.g. Tschiene) should also have been included.

It seems inevitable in a modern text book that there are some printing errors, but none that I found was serious.

All in all, Sports Training Principles is an extremely useful source of reference. Any Coach or athlete bent on improvement will most certainly benefit from this volume.

Jürgen Schiffer