

K.F. Dyer and T. Dwyer, *Running Out of Time: An Examination of the Improvement in Running Records*. New South Wales University Press, Kensington, 1984. Bibliog., illus., pp.ix+ 299. \$19.95.

Aptly titled *Running Out of Time*, this book traces the historical background to running in the 1980s, noting in particular the emergence in the nineteenth century of the gentleman-amateur tradition, on the one hand, and the pedestrian (or professional) tradition, on the other hand. As it shows, the former tradition, through the influence of the universities and the 'upper' classes,

ultimately triumphed with the revival of the Olympic Games in 1896, a movement which gradually assumed an international basis as the result of the formation of the International Olympic Committee, the International Amateur Athletics Federation, the associated national bodies.

Parallel with the internationalisation of amateur athletics has been the development of science and technology. More particularly, since the pioneering work of A.V. Hill, British Professor of Physiology, in the earlier part of this century, scientists have assumed a growing interest in the performance of athletics. A natural consequence of this research was that coaches and athletes began to apply relevant scientific findings to their own training systems. While this link between science, technology and athletic performance was evident as early as the 1930s, when Waldemar Gerschler utilised scientific principles and findings to guide the great Rudolph Harbig to outstanding times over 800 metres, it remained fairly tenuous until the 1970s. Most coaches, up till then, worked independently of sports science. Yet, as the training schedules of athletes like Sebastian Coe and Robert de Castella demonstrate, this situation is rapidly changing. Certainly, as the recent establishment of sports institutes in this country indicate, all future top athletes will rely very heavily on scientific knowledge when they train.

Of course, these changes have occurred at different rates, at various times, in different parts of the world. Indeed, until recently, as the result of uneven politico-economic development, the top athletes have tended to come from a small group of advanced countries. Yet, as the performance of African nations over the last two decades have indicated, this pattern is gradually changing. Again, in the past few years the number of elite runners has grown considerably particularly as athletics has become a mass-based sport and, as a result, has been commoditised by shoe manufacturers, commercial television stations and others. Equally significant in this respect, internationalism, as implied in the early Olympic Games, has given way to nationalism.

Underlining all these developments has been the challenge that running poses. In some cases, athletes run to prove themselves; in other cases, they aim to beat a particular rival; and,

in yet other cases, they set out to break a record. Whatever their motivation, it is the continual breaking of records that characterises the history of modern athletics. It is, in fact, this process which provides the book with a focus, in that the authors draw all the above factors together to show how records have been broken. Moreover, and this is especially significant, they employ a variety of indicators to outline what times male and female athletes might expect to run in the future.

Generally, the book is well written, although, at times it is repetitive. Technically, it has been well produced with ample figures and tables to illustrate its argument. Again, in terms of research, it draws on a wide range of documentary evidence, some of which had not previously been utilised. In this context, however, I was surprised that a large number of important books were not included in the bibliography. Certainly, if the book is revised at some later date, it should attempt to draw on all relevant literature,

Yet, these criticisms apart, I am most impressed with this publication. It fills a large gap in our knowledge of the development of athletics and points, in particular, to the vital link between science, technology and training. Its detailed construction of the pattern of records is both informative and fascinating. I congratulate Ken Dyer and Terry Dwyer and I urge all who are interested in the underlying reasons behind the progress in running to read this book.

John McGuire  
Western Australian  
Institute of Technology