

- Jackson, A. S., Pollock, M. L. and Ward, A., 1980 "Generalized equations for predicting body density of women". *Med.Sci.Sports Ex.* 12: 175-182.
- Jordan, D. B., 1977 "Analysis of exercise stress test responses of adult women marathon runners". *J.Sports Med.Phys.Fit.* 17: 59-64.
- Maughan, R. J. and Leiper, J. B., 1983 "Aerobic capacity and fractional utilization of aerobic capacity in elite and non-elite male and female marathon runners". *Eur.J.Appl.Physiol.* 52: 80-87.
- Pate, R. R. and Kriska, A., 1984 "Physiological basis of the sex difference in cardiorespiratory endurance". *Sports Med.* 1: 87-98.
- Pugh, L. G. C. E., 1971 "The influence of wind resistance in running and walking and the mechanical efficiency of work against horizontal or vertical forces". *J.Physiol.(London)* 213: 255-276.
- Siri, W. E., 1961 "Body composition from fluid spaces and density: analysis of methods." In: *Techniques for Measuring Body Composition*, Brozek, J. and Henschel, A. (Eds.). Washington, D.C., National Academy of Sciences.
- Sjödín, B. and Svedenhag, J., 1985 "Applied physiology of marathon running". *Sports Med.* 2: 83-99.
- Slovic, P., 1977 "Empirical study of training and performance in the marathon". *Res.Quart.* 48: 769-777.
- Wells, C. L., Hecht, L. H. and Krahenbuhl, G. S., 1981 "Physical characteristics and oxygen utilization of male and female marathon runners". *Res.Quart. Ex.Sport* 52: 281-285.
- Wilmore, J. H. and Brown, C. H., 1974 "Physiological profiles of women distance runners". *Med.Sci.Sports* 6: 178-181.

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## BOOK REVIEW

**Title:** **RUNNING RECOLLECTIONS AND HOW TO TRAIN**  
**Author:** A. R. Downer  
**Publisher:** Balgownie Books, Tarland, Aberdeenshire. 1982  
 Price: £3.95      150 pages      ISBN 094 6698007

An autobiography by A. R. Downer first published in 1902, has been published in facsimile by Balgownie Books. Downer, born in 1874, was a sprinter who won the 100, 220 and 440 yards Scottish AAA championships in three successive years (1883, 1884 and 1885). The book contains a fascinating account of illegal payments that were made more than 100 years ago for participation in particular events. In 1902 Downer wrote "How many so-called amateurs run for the pure love of the sport? Do not the most, in fact by far the most, enter and try to win only at those meetings where the best prizes are given . . . I do not blame them — far from it — but I do condemn the smug hypocrisy of the governing body who recognise these things, and, knowing them to be contrary to their laws, make no attempt to prevent them . . ." Athletics and its governing body does not seem to have changed much during 100 years.

Downer was suspended for ever from competing in amateur sports on 25th June, 1896. A fascinating account of professional races is described, from which one obtains some feeling of the intensity of the competitive spirit and the interesting use of handicaps in the sprint to ensure a race to the tape (or "the worsted" — as Downer describes it). I found the custom of the winner of a race giving five shillings to all the participants in the final, or as Downer described it "saving of a dollar all round", not only amusing but a commentary on the economics of the time — the exchange rate of four dollars to the pound must have been a stable rate for a considerable period of time for five shillings to be known as a "dollar" or 2s 6d as "half-a-dollar". Would we wish the British economy to be so strong at the present?

The book also contains information on the training regimens used by the various athletes in those early days. This is given by Downer, who was a sprinter, by E. C. Bredin a middle distance runner (half-mile champion of the world) and by Len Hurst a long distance runner, (20 mile champion of the world). The training regimens, in comparison to those of today, were, to say the least, *light* and walking was included in all the regimens. Interestingly, however all recommended training twice a day which is now becoming common practice, with some elite athletes now training four times per day. Most remarkable, however, were the diets eaten by these champions; meat appears to be the dominant food with stale bread and beer also recommended: "animal diet is alone prescribed and beef and mutton are preferred . . . the legs of the fowl are highly esteemed . . . biscuits and stale bread are the only preparations of vegetable matter which are permitted . . ." This diet is totally unsuitable for athletes. Science can at least now suggest more sensible diets — but of course this does not mean that scientific advice is taken by the athletes: my anecdotal information is that, for some current soccer players, boxers, tennis players and even track athletes, the normal diets may not be any better than those recommended in this book. Perhaps in the age of technology, many athletes are still in Downer's period of 'biscuits and stale bread'.

**Eric Newsholme**