more elementary or, at least, less condensed exposition is possible.

Lectures on closed geodesics is an uncompromising, essentially self-contained, exposition of the Hilbert manifold approach to Morse theory on $\bigwedge M$. In addition, Lyusternik's method of subordinated homology classes is developed and used when needed. Chapter 3, whose central theme is the index theorem, includes extensive material on symplectic geometry and the Poincaré map which has not previously appeared in book form. Included in the last chapter is a far ranging report on manifolds of elliptic and hyperbolic type, integrable and Anosov geodesic flows, and manifolds without conjugate points. An appendix gives more elementary proofs of the Lyusternik-Fet and Lyusternik-Schnirelmann theorems. J. Moser and J. Sacks have contributed sections, respectively, on the Birkhoff-Lewis fixed point theorem and Sullivan's theory of minimal models.

So if this is the most up-to-date, most complete exposition available, where is a student to begin? Certainly not here. A more reasonable route into the calculus of variations in the large (periodic geodesic division) would be to start with Smale's review [8], then Milnor's *Morse Theory* [5], followed by Seifert-Threlfall [7], Alber's Uspehi surveys [1] and [2] (the difference between the 1957 and 1970 ones is historically interesting), and then, perhaps in conjunction with a stay in Bonn where Klingenberg gathers an active group of students and coworkers, *Lectures on closed geodesics*.

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Optimal stopping rules, by A. N. Shiryayev, Applications of Math. vol. 8, Springer-Verlag, New York, Heidelberg, Berlin, x + 217 pp., $24.80.

In the general optimal stopping problem one imagines a gambler observing the outcomes of a sequence of games of chance. The fortune of the gambler depends on these outcomes, and after the nth game in the sequence it equals f_n ($n = 1,2, \ldots$). The gambler cannot influence the outcomes of the various