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incidental to the chemical origins and evolution of the nucleic acids, the underlying picture is one of the unity of life, of which humans are a part. Brief discussions, footnotes, and asides designated by ruled borders, touch on analytical and physical topics, usually at an introductory level appropriate for upper-level biology students and in such a way that I hope leads to further exploration or that complements descriptive material in introductory texts in molecular and cellular biology. Methodologies and physical properties of the nucleic acids and proteins are covered authoritatively by Cantor and Schimmel,[6] Bloomfield *et al.*,[7] and Saenger.[8] Although it is far from a complete list, other texts useful in studies of the informational biopolymers include those by Adams *et al.*,[9] Alberts *et al.*,[10] Berry *et al.*,[11] Chang,[12] Chang,[13] Eigen,[14] Friedberg *et al.*,[15] Lewin,[16] Griffiths *et al.*,[17] Purves *et al.*,[18] and Mathews and van Holde.[19] These or comparable texts are prerequisites for the subjects discussed in this volume, and I recommend that students have access to them.

This volume contains more material than can be covered in the usual one-semester course, because it is designed to meet four requirements: to provide source material for a more comprehensive program of courses, to provide a clear and incisive treatment of nucleic acids at a level accessible to students in all fields of the biological sciences, to provide topics and questions for students coming into the course with specialized backgrounds and interests, and to provide topics together with original citations as a basis for student writing experiences. Although problems are included, the material covered is rich in unarticulated questions that advanced and serious students of the subject should be able to identify.

The broad spectrum of topics is a good basis for the practice students need in scientific writing, since it allows them to indulge their interests in an array of subjects not necessarily covered in class. For this reason I have included citations that oftentimes represent different perspectives on specific topics using different methods of analysis. Besides recognizing the pioneers, the older references are often easier to read where they lack the specialized and abbreviated vocabulary that characterizes much of contemporary literature. The extensive bibliographies that follow each chapter are therefore mainly for the benefit of students in their research and writing requirements. The experience of writing five, six, or ten papers per semester-course is not sufficient, of course, for students to become proficient in recognizing important questions, organizing their thoughts and mastering the craft at a level required for the submission of acceptable manuscripts, but it is at least a contribution.

If the emphasis of the course is to be on the chemistry of the informational biopolymers, the core chapters are Chapters 1 through 4, plus the first half of Chapter 5, all of Chapter 6, first three-quarters of Chapter 7, and all of Chapters 8 and 9. A number of sections and topics can be expanded with material cited or abridged or omitted if deemed unsuitable to a particular group of students without breaking the flow of argument. If the emphasis is to be on the molecular biology of the informational biopolymers, the core material is from Chapters 1, 3 through 7, and 9 through 12. The format of the book is also suitable for specific discussion and special topics courses for students and instructors with particular interests. Thus, molecular evolution can be covered with selected sections of the core chapters, together with Chapters 7, 10–13, while a course on the origin of life can be presented with the core chapters together with Chapters 7, 11, and 13. A special topics course on protein-nucleic acid interactions can be assembled from material in Chapters 3, 5, 9, 10, and 12.

Over the years the majority of students who enrolled in my courses were from the biological sciences, but it was not unusual to find a significant number of students from physics, chemistry, the computer sciences and engineering, and in this regard I suspect that my experience is not unusual. Although these students often lack the prerequisites expected of students of biology, they are more proficient in areas that students of biology are often not exposed to, bringing skills in physics and physical chemistry that have been most responsible