Preface to the Second Edition

Rob Philips and Steve Quake (Physics Today, May 2006) have cogently described the three problems that lie at the 'interface between physics and biology': (i) the working of molecular machines as the basis of life, (ii) the coordinated working of macromolecular assemblies within the cell, and (iii) the far-from-equilibrium behaviour of these systems. In another article (Physics Today, March 2005), Ray Goldstein, Phil Nelson, and Tom Powers have also suggested that an elementary course in biophysics may find a way through description of single-molecule manipulation, molecular motors,.... Prompted by these authors, a Chapter (12) on molecular machines has been added in this edition, though it covers only qualitative description of the 'machines'. Further it was planned to add a section on 'special topics' in this edition. Time has permitted only one topic, that is, tomographic medical imaging, to be added in this section on the suggestion of our publishers who got a request for the same from some readers from medical physics community. Rest of the book remains largely unaltered.

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