Preface

INTENDED FOR CLASS USE OR SELF-STUDY, this text aspires to introduce statistical methodology to a wide audience, simply and intuitively, through resampling from the data at hand.

The resampling methods—permutations and the bootstrap—are easy to learn and easy to apply. They require no mathematics beyond introductory high-school algebra, yet are applicable in an exceptionally broad range of subject areas.

Introduced in the 1930s, the numerous, albeit straightforward calculations resampling methods require were beyond the capabilities of the primitive calculators then in use. They were soon displaced by less powerful, less accurate approximations that made use of tables. Today, with a powerful computer on every desktop, resampling methods have resumed their dominant role and table lookup is an anachronism.

Physicians and physicians in training, nurses and nursing students, business persons, business majors, research workers, and students in the biological and social sciences will find here a practical and easily grasped guide to descriptive statistics, estimation, testing hypotheses, and model building.

For advanced students in biology, dentistry, medicine, psychology, sociology, and public health, this text can provide a first course in statistics and quantitative reasoning.

For mathematics majors, this text will form the first course in statistics, to be followed by a second course devoted to distribution theory and asymptotic results.

Hopefully, all readers will find my objectives are the same as theirs: *To use quantitative methods to characterize, review, report on, test, estimate, and classify findings.*

Warning to the autodidact: You can master the material in this text without the aid of an instructor. But you may not be able to grasp even