Record Nr. UNINA9910969931003321 Autore Mayo Deborah G Titolo Error and the growth of experimental knowledge / / Deborah G. Mayo Chicago,: University of Chicago Press, 1996 Pubbl/distr/stampa **ISBN** 9786613058409 9781283058407 1283058405 9780226511993 0226511995 Edizione [1st ed.] Descrizione fisica 1 online resource (512 p.) Science and its conceptual foundations Collana Disciplina 001.4/34 Soggetti Error analysis (Mathematics) Bayesian statistical decision theory Science - Philosophy Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Description based upon print version of record. Nota di bibliografia Includes bibliographical references (p. 465-480) and index. Nota di contenuto Front matter -- Contents -- Preface -- 1. Learning from Error -- 2. Ducks, Rabbits, and Normal Science: Recasting the Kuhn's-Eye View of Popper -- 3. The New Experimentalism and the Bayesian Way -- 4. Duhem, Kuhn, and Bayes -- 5. Models of Experimental Inquiry -- 6. Severe Tests and Methodological Underdetermination -- 7. The Experimental Basis from Which to Test Hypotheses: Brownian Motion --8. Severe Tests and Novel Evidence -- 9. Hunting and Snooping: Understanding the Neyman-Pearson Predesignationist Stance -- 10. Why You Cannot Be Just a Little Bit Bayesian -- 11. Why Pearson Rejected the Neyman-Pearson (Behavioristic) Philosophy and a Note on Objectivity in Statistics -- 12. Error Statistics and Peircean Error Correction -- 13. Toward an Error-Statistical Philosophy of Science --References -- Index Sommario/riassunto We may learn from our mistakes, but Deborah Mayo argues that, where experimental knowledge is concerned, we haven't begun to learn enough. Error and the Growth of Experimental Knowledge launches a vigorous critique of the subjective Bayesian view of statistical inference, and proposes Mayo's own error-statistical approach as a more robust

framework for the epistemology of experiment. Mayo genuinely addresses the needs of researchers who work with statistical analysis, and simultaneously engages the basic philosophical problems of objectivity and rationality. Mayo has long argued for an account of learning from error that goes far beyond detecting logical inconsistencies. In this book, she presents her complete program for how we learn about the world by being "shrewd inquisitors of error, white gloves off." Her tough, practical approach will be important to philosophers, historians, and sociologists of science, and will be welcomed by researchers in the physical, biological, and social sciences whose work depends upon statistical analysis.