The Social Construction of Technological Systems

New Directions in the Sociology and History of Technology

edited by Wiebe E. Bijker, Thomas P. Hughes, and Trevor J. Pinch

Contents

Preface ix
General Introduction

COMMON THEMES IN SOCIOLOGICAL AND HISTORICAL STUDIES OF TECHNOLOGY

Introduction 9

The Social Construction of Facts and Artifacts: Or How the Sociology of Science and the Sociology of Technology Might Benefit Each Other 17
Trevor 7. Pinch and Wiebe E. Bijker

The Evolution of Large Technological Systems 51
Thomas P. Hughes

Society in the Making: The Study of Technology as a Tool for Sociological Analysis 83
Michel Callon

II SIMPLIFYING THE COMPLEXITY

Introduction 107

Technology and Heterogeneous Engineering: The Case of Portuguese Expansion 111
John Law

The Nelson-Winter-Dosi Model and Synthetic Dye Chemistry 135

Henk van den Belt and Arie Rip

The Social Construction of Bakelite: Toward a Theory of Invention 159 Wiebe E. Bijker

III STRATEGIC RESEARCH SITES

Introduction 191

Missile Accuracy: A Case Study in the Social Processes of Technological Change 195

Donald MacKenzie

The Social Locus of Technological Practice: Community, System, or Organization? 223 Edward W. Constant II

Regulatory Science and the Social Management of Trust in Medicine 243

Henk J.H.W. Bodewitz, Henk Buurma, and Gerard H. de Vries

The Consumption Junction: A Proposal for Research
Strategies in the Sociology of Technology 261
Ruth Schwartz Cowan

Seeing with Sound: A Study of the Development of Medical Images 281 Edward Yoxen

IV TECHNOLOGY AND BEYOND

Introduction 307

Reconstructing Man and Machine: A Note on Sociological Critiques of Cognitivism 311 Steve Woolgar

Expert Systems and the Science of Knowledge 329 H. M. Collins

References 349
Contributors 373
Name Index 377
Subject Index 383