

Detailed Table of Contents

CHAPTER I. CHANGE AND CONTINUITY	I
A. Why Speculate Far Ahead?	I
B. Method: Standard Projections and Multifold Trends	5
1. The Basic, Long-Term Multifold Trend	6
2. Surprise-Free Projections and the Standard World	7
3. The Canonical Variations	9
C. Some Perspectives on Historical Change	13
1. The First Two-Thirds of the Twentieth Century	13
2. The Last Third of the Twentieth Century and the Beginning of the Next	22
3. The Heuristic Use of Macrohistory	26
D. Some Methodological Comments on the Analysis of Long- Term Trends	34
E. The Basic, Long-Term Multifold Trend	39
1. Increasingly Sensate (Empirical, This-Worldly, Secular, Humanistic, Pragmatic, Utilitarian, Contractual, Epicurean or Hedonistic, and the Like) Cultures	39
2. Bourgeois, Bureaucratic, "Meritocratic," Democratic (and Nationalistic?) Elites	48
3. Accumulation of Scientific and Technical Knowledge	50
4. Institutionalization of Change, Especially Research, Development, Innovation, and Diffusion	50
5. Worldwide Industrialization and Modernization	57
6. Increasing Affluence and (Recently) Leisure	57
7. Population Growth	61
8. Urbanization and (Soon) the Growth of Megalopolises	61
9. Decreasing Importance of Primary and (Recently) Secondary Occupations	62
10. Literacy and Education	63

11. Increasing Capability for Mass Destruction	64
12. Increasing Tempo of Change	64
13. Increasing Universality of the Multifold Trend	64

List of Tables

TABLE

I	There Is a Basic, Long-Term Multifold Trend Toward . . .	7
II	Canonical Variations	9
III	Year 1900	14
IV	First Third of the Twentieth Century	16
V	Second Third of the Twentieth Century	17
VI	Second Wave of Industrial Revolutions	22
VII	Final Third of the Twentieth Century	23
VIII	Some Possible Causes of "Surprising" Changes in the Old Nations	24
IX	The Postindustrial (or Post-Mass Consumption) Society	25
X	A Relatively "Surprise-Free" Early Twenty-First Century	25
XI	Macrohistorical Perspectives on Change	28
XII	Ideational, Idealistic (or Integrated), Sensate, and Late Sensate Art	40
XIII	Three Standard Cultural Phases	41
XIV	One Could Also Contrast the Ideational, Integrated (Idealistic), and Sensate Systems of	42
XV	Three Systems of Truth	43
XVI	Quigley's "Scenario"	46
XVII	Sorokin's "Scenario"	47
XVIII	One Hundred Technical Innovations Very Likely in the Last Third of the Twentieth Century	51
XIX	Some Less Likely but Important Possibilities	55
XX	Ten Far-Out Possibilities	56
XXI	Five Levels of Income and Industrial Development in the Year 2000	58
XXII	Six Economic Groupings in Year 2000 (Millions of People)	60

List of Figures

FIGURE

1	"Surprise-Free" Projections For the Ten Major Countries	11
2	Postwar Economic Growth and One Projection of Economic Growth of the "Large" Powers	30
3	A Modified Greek Theory of Political Cycles	33
4	A Possible Cycle of Basic Intellectual Attitudes	33
5	The Rate of Increase of Operating Energy in Particle Accelerators	35
6	GNP and R&D: Failure of Naïve Extrapolation	36

CHAPTER II. COMMENTS ON SCIENCE AND TECHNOLOGY 66

A. Introduction	66
B. Synergism and Serendipity	67
C. Nuclear Power	70
D. Central War: Technology and Doctrinal Lags	75
E. Electronics, Computers, Automation, and Information Processing	86
1. Electronics	87
2. Electronic Computers	88
3. Automation and Cybernation	91
4. Information Processing	94
F. Lasers	98
G. Holography	102
H. The Biological Manipulation of Man	105
I. Some Concluding Comments	116

List of Tables

TABLE		
I	1951 Technology	76
II	1956 Technology	77
III	1961 Technology	78
IV	1965 Technology	80
V	Four Questions That Must Be Answered	82
VI	Model-T and Model-A Strategic Eras	83
VII	The Next Decade or Two	84
VIII	In the Last Decade or Two of the Twentieth Century	85

List of Figures

FIGURE		
1	Three Interrelated Synergisms	69
2	A Synergism for Basic Molecular Research	70
3	Budgets for Strategic Forces	82

CHAPTER III. SOME "SURPRISE-FREE" ECONOMIC PROJECTIONS: A QUANTITATIVE SCENARIO 118

A. Introduction	118
1. The Optimistic Bias	118
2. Productivity, Work, Leisure, and GNP	123

3.	Some Additional Justification for the Surprise-Free Economic and Demographic Projection (or Scenario) . . .	127
4.	Some Uses of This Chapter	130
5.	The Achievement of Capabilities	133
6.	The Relationship of GNP and Population	134
B.	Worldwide Projections	136
1.	World and Continents	138
2.	A Quantitative Scenario for the World in the Year 2000	140
3.	The Dichotomized Standard World	141
4.	World Population in 2000	150
5.	Population and GNP by Region	151
6.	Population and GNP, Ten Major Countries	156
7.	Population and GNP, Nineteen Contender Countries	160
C.	U.S. Projections	167
1.	Summary of Gross Indices	167
2.	Population and Labor Force	169
3.	Participation Rates, Hours of Work, and Earnings	170
4.	GNP and Its Major Components	176
a.	Expenditure Sector	177
b.	Government Spending	177
c.	Investment	177
d.	Per Capita GNP and Disposable Income	179
5.	Summary of United States in 2020	184

List of Tables

TABLE		
I	Comparative Forecasts of GNP Per Capita to Year 2000, Ten Major Countries	119
II	Comparison of Population Growth Rates with Per Capita Income Growth Rates	136
III	Population, GNP, GNP Per Capita, Continents	139
IV	Average Annual Rates of Growth of Population, Gross National Product, GNP Per Capita, by Continent, 1965-2000	140
V	The Dichotomized Standard World, Population	142
VI	The Dichotomized Standard World, GNP	143
VII	The Dichotomized Standard World, GNP Per Capita	143
VIII	Years Needed to Achieve Current U.S. GNP Per Capita	149
IX	Population and Population Growth Rates, Regional Projections	151
X	Regional GNP Projections	153
XI	GNP Per Capita, Regional Projections	154
XII	Population and Population Growth Rates, Ten Major Countries	157

DETAILED TABLE OF CONTENTS

xi

XIII	GNP, Ten Major Countries	159
XIV	GNP Per Capita, Ten Major Countries	161
XV	Population and Population Growth Rates, Nineteen Contender Countries	162
XVI	GNP, Nineteen Contender Countries	163
XVII	GNP Per Capita, Nineteen Contender Countries	165
XVIII	Summary of Gross Economic Indices	168
XIX	U.S. Population by Age	169
XX	Labor Force by Age and Sex	171
XXI	Labor Force, Employment, and Unemployment	173
XXII	Labor Force Participation Rates by Age and Sex	174
XXIII	Average Weekly Hours of Work in Selected Industries	175
XXIV	Employees in Nonagricultural Establishments by Industry	176
XXV	Average Gross Hourly Earnings in Selected Industries	177
XXVI	GNP and Its Major Components	178
XXVII	Government Purchases of Goods and Services	179
XXVIII	Gross Private Domestic Investment	179
XXIX	Per Capita GNP and Consumption, 1965-2020	180
XXX	Disposition of Personal Income, High and Low Estimates	181
XXXI	Distribution of Family Personal Income Before Tax	181

List of Figures

FIGURE

1	U.S., GNP Per Capita, 1869-2000	120
2	Japan, GNP Per Capita, 1878-2000	121
3	Historical Annual Average Workweek 1900-1963	124
4	To Achieve a High GNP Estimate, Year 2000	126
5	To Achieve a Low GNP Estimate, Year 2000	126
6	Population, GNP, and GNP Per Capita by Continents, 1965 and 2000	137
7	The Dichotomized Standard World, Population	145
8	The Dichotomized Standard World, GNP	146
9	Population, GNP, GNP Per Capita, The Dichotomized Standard World 1965-2000	144
10	The Rising Expectations Ratio: Likely Improvements in Living Standards 1965-2000	147
11	The Rising Expectations Ratio: Years Required to Improve GNP Per Capita by Some Factor (R_E)	148
12	World Population, 8000 B.C.—Year 2000	150
13	Population, GNP, and GNP Per Capita by Regions, 1965 and 2000	155
14	Population, GNP, GNP Per Capita, Nineteen Contender Countries, 1965-2000	166
15	Industrial Production Indices	167
16	U.S. Population by Age	170

17	Male Labor Force by Age	172
18	Female Labor Force by Age	172
19	Labor Force, Employment and Unemployment	173
20	Average Weekly Hours of Work in Selected Industries	176
21	GNP and Its Major Components	178
22	Per Capita GNP and Personal Consumption Expenditures	180
23	1962 Distribution of Family Personal Income	182
24	Distribution of Family Personal Income after Federal Income Tax, Using Three Projections of Personal Income	183

CHAPTER IV. POSTINDUSTRIAL SOCIETY IN THE STANDARD WORLD

185

A.	Introduction	185
B.	The Postindustrial Society	186
C.	Cross-Cultural Comparisons	189
D.	Alienation Amidst Affluence	193
	1. Economic Plausibility and Postindustrial Leisure	194
	2. Success Breeds Failure: Affluence and the Collapse of Bourgeois Values	198
E.	Alienation and the Social Structure	202
F.	Functions of Work	208
G.	Other Factors in Alienation	211
H.	Humanism and the Value of Time	213
I.	What Is a Stable State for the Alienated-Affluent Society?	217
J.	A Note on the Problem of Maintenance	218
K.	Social Response to New Difficulties	220

List of Tables

TABLE

I	The Postindustrial (or Post-Mass Consumption) Society	186
II	The (Roman) Stoic Outlook	190
III	The Epicurean Outlook	191
IV	Some Differences between Americans and Romans	191
V	Typical Attitudes of Elites	192
VI	A Leisure-Oriented "Postindustrial" Society	195
VII	Thus in a Leisure-Oriented Society One Could Spend	195

DETAILED TABLE OF CONTENTS

xiii

VIII	Year 2000 Economic Scenarios for U.S. Affluence and Alienation	195
IX	In a "Normal" Postindustrial, Affluent Society of Those (40 Per Cent) Normally in the Labor Force	196
X	Some Assumed Five-Day Week Working Patterns	197
XI	Some Assumed Four-Day Week Working Patterns	197
XII	How Negro Population Will Grow in the Cities, Suburbs, and Total Metropolitan Areas	204
XIII	The Black Muslims	206
XIV	Basic Attitude toward Work As	209

CHAPTER V. INTERNATIONAL POLITICS IN THE STANDARD WORLD

221

A.	Introduction	221
B.	A Classic Parallel to the Projected Situation	222
C.	Some (Agreed) International Aspects of the Standard World	224
1.	Coexistence and Detente	224
a.	The Concept of Military Superiority	225
b.	The United States-Soviet Arms Competition	226
c.	The European Balance	227
d.	Avenues for Coexistence	229
2.	Some Principal Actors and Variables	230
a.	Communist China	230
b.	The Soviet Union	233
c.	Germany	234
d.	Japan	237
e.	Afro-Asia	237
f.	Latin America	240
D.	The Surprise-Free Spread of Nuclear Weapons	242

List of Tables

TABLE

I	Japanese Missile Research	244
---	-------------------------------------	-----

List of Figures

FIGURE

1	Current Rice Yields in Selected Countries Related to Japan's Historical Trend	239
2	Tons of Grain Transferred from the Developed to the Less Developed Countries	240

CHAPTER VI. SOME CANONICAL VARIATIONS FROM THE STANDARD WORLD		248
A. More Integrated Worlds		250
1. Integrated World—Stability or Status Quo-Oriented		250
2. Integrated World—Development or Aid-Oriented		252
B. More Inward-Looking Worlds		255
3. More Inward-Looking—Communism Eroded		255
4. More Inward-Looking World—Eroded Democratic Morale and Some Communist Dynamism		257
5. More Inward-Looking—Dynamic Europe or Japan		258
C. Greater Disarray Worlds		258
6. Disarray World—Communism Eroded		258
7. Disarray World—Dynamic Communism		259
8. Disarray World with a Dynamic Europe or Japan		261
D. The Use of Scenarios		262
E. Fragmentary Scenarios for the More Integrated Worlds		265
F. A General Rationale for Inward-Looking and Greater Disarray Worlds		266
G. Fragmentary Scenarios for Inward-Looking Worlds		278
H. A Sketchy Scenario for an Inward-Looking World with Both United States and Soviet Erosion		280
I. Fragmentary Scenarios for a Dynamic Soviet Union and/or a Dynamic Communist Movement (Either Inward-Looking or Greater Disarray Worlds)		283
J. Fragmentary Scenarios for Dynamic Europe and/or Japan (Again for Either Inward-Looking or Greater Disarray Worlds)		286
K. Fragmentary Scenarios for Greater Disarray Worlds		287
1. First Scenario: NATO's Collapse		287
2. Second Scenario: A Nuclear Exchange and Aftermath		288
3. Third Scenario: A Soviet Political Offensive in Europe		290
4. Fourth Scenario: Soviet Bloc Renewal		291
5. Fifth Scenario: A Left-Wing European Union		291
6. Sixth Scenario: United States Overcommitment and Withdrawal		292
EXTENDED DISARRAY-WORLD SCENARIOS		293
A. A Pair of Related, Pessimistic Scenarios (by Raymond D. Gastil)		293
1. Introduction		293

2. The Road through Isolation to War	294
3. The Road through "Victory" to Totalitarianism	299
4. Discussion	306
B. 1975, 1985 Eroded Democracy Scenarios (by Frank E. Armbruster)	308
1. 1975	308
2. 1985	311

List of Tables

TABLE I	Canonical Variations	249
---------	----------------------------	-----

**CHAPTER VII. SOME POSSIBILITIES FOR
NUCLEAR WARS**

316

A. Introduction	316
B. Nuclear War Scenarios: Comments on Outbreak, Waging, and Aftermath	317
1. A Central European Outbreak Scenario	319
2. A Sino-American Outbreak Scenario	321
3. A Soviet American Nuclear Exchange	325
4. Sino-Soviet Outbreak Scenario	326
5. A Large Conventional and Small Nuclear War	327
6. Some Postwar Contexts	328
a. Worlds Dominated by Raw Nuclear Power	331
b. Traditional Power Worlds	331
c. Radical Regime Worlds	331
d. Destruction-Dominated Worlds	332

**CHAPTER VIII. OTHER TWENTY-FIRST CENTURY
NIGHTMARES**

333

A. Introduction	333
B. Business Cycle Worlds	333
1. A Major Depression	334
2. An Economically Stagnating World	337
C. A New Pan-European Movement	339
D. New Mass or Elitist Movements	341
E. Social Controls	345
F. Capture the Flag	352

G. Discussion: Interactions of Domestic and International Possibilities	356
H. Conclusion	357

**CHAPTER IX. THE INTERNATIONAL SYSTEM IN
THE VERY LONG RUN**

CHAPTER IX. THE INTERNATIONAL SYSTEM IN THE VERY LONG RUN	359
A. Threats to the Stability of the System	359
1. The Arms Race	360
2. Human Aggression	362
3. International Anarchy	363
4. Economic and Developmental Disparities	364
B. Minor Modifications of the Current System	366
C. The Institution of All-Out War Withers Away	368
D. More or Less Basic Structural Changes	373
1. Bloc System	374
2. Condominiums	376
3. Concert of Large Powers	377
4. Concert of Small Powers	380
5. Further Development of the United Nations	380
6. World Federal Government	381
7. World Empire or Empires	382
8. Community Sanctions	382
9. Setback to Civilization	383
E. How Do We Get There?	384

TABLE	<i>List of Tables</i>	
I	Eras of Limited and "Total" War in Western History	366

CHAPTER X. POLICY RESEARCH AND SOCIAL CHANGE

CHAPTER X. POLICY RESEARCH AND SOCIAL CHANGE	386
A. Introduction	386
B. Ways to Go Wrong	389
1. Criteria too Narrow	389
2. Decisions at Inappropriate Point in the Structure	391
3. Inadequate Thought	393
4. Bad Luck: Unknown Issues	394
5. Bad Luck: Unlikely Events	394
6. Changes in Actors	395

DETAILED TABLE OF CONTENTS

xvii

7. Inappropriate Models	395
8. Inappropriate Values	396
9. Over- or Underdiscounting of Uncertainty or the Future ..	396
10. The Best May Be the Enemy of the Good (and Sometimes Vice-Versa)	397
C. The Objectives of Future-Oriented Policy Research	398
1. Stimulate and Stretch the Imagination and Improve the Perspective	399
2. Clarify, Define, Name, Expound, and Argue Major Issues	401
3. Formulate and Study Alternative Policy "Packages" and Contexts	402
4. Create Propaedeutic and Heuristic Methodologies and Paradigms	403
5. Improve Intellectual Communication and Cooperation ..	406
6. Increase the Ability to Identify New Patterns and Crises and Understand Their Character and Significance	406
7. Furnish Specific Knowledge and Generate and Document Conclusions, Recommendations, and Suggestions	407
8. Clarify Current Choices—(Hedging, Contingency Planning, and Compromising)	408
9. Broaden and Improve the Basis for Both Political Decision- Making and Administrative Actions in Dealing with New Trends and Crises	409
D. Conclusion: Man's Increasing Faustian Power over Nature (Including Man)	409
Name Index	415
Subject Index	418