

# **A Structuralist Theory of Economics**

**Adolfo García de la Sienna**

# Contents

<i>Preface</i>	x
<i>Acknowledgments</i>	xi
<b>1 Introduction</b>	<b>1</b>
1.1 <i>A new view of scientific theories</i>	3
1.2 <i>The <math>\mathfrak{S}</math>-view in action: an example</i>	7
1.3 <i>Problems of the <math>\mathfrak{S}</math>-view</i>	9
<b>2 Models and structures</b>	<b>13</b>
2.1 <i>The rise of the concept of structure</i>	13
2.2 <i>Models for first-order logic</i>	14
2.3 <i>Elementary classes in economics</i>	19
2.4 <i>Theory of classes</i>	25
2.5 <i>The general concept of structure</i>	30
<b>3 The structuralist view of theories</b>	<b>35</b>
3.1 <i>Origins</i>	35
3.2 <i>The concept and relevance of a metatheory</i>	35
3.3 <i>The ways of theoretical practice</i>	38
3.4 <i>A dialogue between the <math>\mathcal{L}</math>-view and the <math>\mathfrak{S}</math>-view</i>	38
3.5 <i>The structuralist view of theories</i>	48
<b>4 Idealization and concretization</b>	<b>55</b>
4.1 <i>Motivation</i>	55
4.2 <i>Empirical structures</i>	57
4.3 <i>Construction of idealized models</i>	59
4.4 <i>Concretization</i>	65
<b>5 Measurement</b>	<b>69</b>
5.1 <i>The nature of measurement</i>	69
5.2 <i>Representational measurement</i>	72

5.3	<i>Measurement by means of theory</i>	74
5.4	<i>Measurement without theory</i>	78
<b>6</b>	<b>A general concept of an economy</b>	<b>82</b>
6.1	<i>Fixing the reference of economic theories</i>	82
6.2	<i>A general concept of an economic system</i>	82
<b>7</b>	<b>Preference and utility</b>	<b>90</b>
7.1	<i>Introduction</i>	90
7.2	<i>The conditions of Debreu and Mas-Colell</i>	92
7.3	<i>Motivation</i>	93
7.4	<i>The algebraic theory of difference</i>	94
7.5	<i>The geometric theory of difference</i>	97
7.6	<i>The theory of preference</i>	106
7.7	<i>The empirical meaning of differentiability</i>	107
7.8	<i>New foundations of preference theory</i>	111
<b>8</b>	<b>The logical structure of game theory</b>	<b>114</b>
8.1	<i>Introduction</i>	114
8.2	<i>Finding the (lost) beings, stories and narratives</i>	115
8.3	<i>Conceptual prolegomena</i>	116
8.4	<i>Concepts of strategy</i>	117
8.5	<i>Probability spaces induced by behavioral strategies</i>	119
8.6	<i>The equilibrium concept</i>	123
8.7	<i>The game concept</i>	125
8.8	<i>Empirical applicability of GT</i>	129
<b>9</b>	<b>Abstract labor and labor-value</b>	<b>132</b>
9.1	<i>Introduction</i>	132
9.2	<i>Abstract labor</i>	134
9.3	<i>Market-determination of abstract labor</i>	140
9.4	<i>Labor-value</i>	145
9.5	<i>The meaning and relevance of abstract labor</i>	153
<b>10</b>	<b>Classical economics</b>	<b>155</b>
10.1	<i>Introduction</i>	155
10.2	<i>The fundamental Marxian theorem</i>	156
10.3	<i>General equilibrium</i>	160
10.4	<i>Equilibrium</i>	163
10.5	<i>The empirical claim</i>	172

<b>11</b>	<b>The logical structure of Sraffian economic theory</b>	174
	<i>11.1 Introduction</i>	174
	<i>11.2 The conceptual framework</i>	174
	<i>11.3 The basic theory-element</i>	177
	<i>11.4 The standard commodity</i>	179
	<i>11.5 The empirical claim</i>	180
	<i>11.6 What can/ought be done?</i>	181
<b>12</b>	<b>The logical structure of econometrics</b>	182
	<i>12.1 Motivation</i>	182
	<i>12.2 Real concrete DGPS</i>	183
	<i>12.3 Random experiments</i>	184
	<i>12.4 Probability spaces</i>	185
	<i>12.5 Random variables</i>	189
	<i>12.6 Conditional probability as fundamental</i>	191
	<i>12.7 From conditional to absolute probability</i>	194
	<i>12.8 Statistical inference</i>	195
	<i>12.9 The logical structure of econometrics</i>	196
	<i>References</i>	199
	<i>Author Index</i>	207
	<i>Subject Index</i>	211