Quantum Mind and Social Science

Unifying Physical and Social Ontology

Alexander Wendt

Department of Political Science The Ohio State University



Contents

	Acknowledgments	page x
1	Preface to a quantum social science	1
	Why are we here?	1
	Introduction	2
	The causal closure of physics	7
	Classical social science	11
	The anomaly of consciousness	14
	The mind-body problem	14
	Intentionality and consciousness	18
	The threat of vitalism	21
	The anomaly of social structure	22
	Where is the state?	23
	The threat of reification	25
	As if explanation and unscientific fictions	26
	My central question, and answer in brief	28
	Re-inventing the wheel?	34
	Situating your observer	36
Part I	Quantum theory and its interpretation	39
	Introduction	39
2	Three experiments	43
	The Two-Slit Experiment	43
	Measurement is creative	46
	Collapse of the wave function	46
	Complementarity	48
	The Bell Experiments	50
	The Delayed-Choice Experiment	54
3	Six challenges	58
	The challenge to materialism	59
	The challenge to atomism	60
	The challenge to determinism	62
	The challenge to mechanism	63
	The challenge to absolute space and time	65
	The challenge to the subject-object distinction	66

4	Five interpretations	70
	The problem and a meta-interpretive framework	71
	Instrumentalism: the Copenhagen Interpretation	73
	Realism I: materialist interpretations	76
	The GRW Interpretation	76
	The Many Worlds Interpretation	77
	Realism II: idealist interpretations	81
	The Subjectivist Interpretation	81
	The Bohm Interpretation	85
Part II	Quantum consciousness and life	91
	Introduction	91
5	Quantum brain theory	95
	Your quantum brain	96
	The Fröhlich tradition	98
	The Umezawa tradition	101
	Assessing the current debate	102
6	Panpsychism and neutral monism	109
	Panpsychism	111
	Background	112
	Defining 'psyche,' aka subjectivity	114
	Projecting subjectivity through the tree of life	116
	And then all the way down	119
	The combination problem and quantum coherence	123
	Neutral monism and the origin of time	124
7	A quantum vitalism	131
	The materialist-vitalist controversy	132
	Life in quantum perspective	137
	Cognition	139
	Will	139
	Experience	141
	Why call it vitalism?	143
Part II	A quantum model of man	149
	Introduction	149
8	Quantum cognition and rational choice	154
	Quantum decision theory	157
	Order effects in quantum perspective	157
	Paradoxes of probability judgment	159
	Quantizing preference reversals	161
	Rationality unbound?	164
	Quantum game theory: the next frontier	169
9	Agency and quantum will	174
	Reasons, teleology, and advanced action	175

	Contents	ix
	Free will and quantum theory The philosophical literature	182 183
	The Libet experiments	185
10	Non-local experience in time	189
	The qualitative debate on changing the past	191
	The Epistemological view	192
	The Ontological view	193
	The physics of changing the past	198
Part IV	Language, light, and other minds	207
	Introduction	207
11	Quantum semantics and meaning holism	210
	Composition versus context in meaning	212
	Quantum contextualism	215
12	Direct perception and other minds	222
	The problem of perception	223
	The dual nature of light	226
	Holographic projection and visual perception Semantic non-locality and intersubjectivity	228 230
	The theory of mind debate	230
	Semantic non-locality and other minds	230
	Three objections considered	237
Part V	The agent-structure problem redux	243
	Introduction	243
13	An emergent, holistic but flat ontology	247
15		247
	Supervenience meets externalism Agents, structures, and quantum emergence	250
	Downward causation in social structures	260
14	Toward a quantum vitalist sociology	267
	The holographic state	268
	The state as an organism	273
	The state and collective consciousness	275
	The politics of vitalist sociology	281
	Conclusion	283
	Night thoughts on epistemology	284
	Too elegant not to be true?	288
	Bibliography	294
	Index	345