

Contents

1.	Introduction	3
1.1.	Can philosophy help science?	3
1.2.	Quantum mechanics and the double slit experiment	6
1.3.	Cosmology and dark matter/energy	7
2.	The Philosophy of Existence.....	10
2.1.	The horizon of cognition	10
2.2.	The law of symmetry.....	14
2.3.	Quantization of spacetime	18
2.3.1.	The origin of spacetime	18
2.3.2.	Time	20
2.3.3.	Space	23
2.3.4.	Motion	24
2.3.5.	Interval	25
2.3.6.	The horizon of cognition and spacetime quanta	26
3.	The micro world	30
3.1.	The duality of particles in the double-slit experiment.....	30
3.2.	Electron orbitals	33
3.3.	Quantisation	34
3.4.	Tunnelling	36
3.5.	Quantum entanglement.....	37
3.6.	Quantum fluctuations	42
3.7.	Matter is energy, energy is vibration	42
3.8.	Aether and photons	45
4.	The macro world	47
4.1.	The topology of the universe	47
4.2.	What is matter?	51
4.3.	Non-linearity of physical quantities	51
4.4.	A philosophical view of gravity and the dynamics of the universe	53
4.5.	The origin and ultimate fate of the universe	56
4.6.	Dark matter, dark energy and the accelerated expansion of the universe	59
5.	Unifying perspectives.....	60
5.1.	A unifying view in the micro/macro world	60
5.2.	Does God play dice?	61
5.3.	The theory of everything.....	62
6.	Conclusion.....	64