CONTENTS

AUTHORS PREFACE TO THE SECOND EDITION	xiii
INTRODUCTION TO THE ENGLISH TRANSLATION	1
CHAPTER I What do we know and what do we not know? Our data, and the things for which we seek. The unknown mistaken for the known. Matter and motion. What does the positive philosophy come to? Identity of the unknown: x=y, y=x. What we really know. The existence of consciousness in us, and of the world outside of us. Dualism or monism? Subjective and objective knowledge. Where do the causes of the sensations lie? Kant's system. Time and Space. Kant and the "ether." Mach's observation. With what does the physicist really deal?	11
CHAPTER II	
A new view of the Kantian problem. The books of Hinton. The "space-sense" and its evolution. A system for the development of a sense of the fourth dimension by exercises with colored cubes. The geometrical conception of space. Three perpendiculars—why three? Can everything existing be measured by three perpendiculars? The indices of existence. Reality of ideas. Insufficient evidence of the existence of matter and motion. Matter and motion are only logical concepts, like "good" and "evil."	23
CHAPTER III	
What may we learn about the fourth dimension by a study of the geometrical relations within our space? What should be the relation between a three-dimensional body and one of four dimensions? The four-dimensional body as the tracing of the movement of a three-dimensional body in the direction which is not confined within it. A four-dimensional body as containing an infinite number of three-dimensional bodies. A three dimensional body as a section of a four-dimensional one. Parts of bodies and entire bodies in three and in four dimensions. The incommensurability of a three-dimensional and a four-dimensional body. A material atom as a section of a four-dimensional line 3	34
CHAPTER IV	
In what direction may the fourth dimension lie? What is motion? Two kinds	

of motion—motion in space and motion in time—which are contained in every movement. What is time? Two ideas contained in the conception of time. The new dimension of space, and motion upon that dimension. Time as the fourth dimension of space. Impossibility of understanding the fourth dimension without the idea of motion. The idea of motion and the "time-sense." The time sense as a limit (surface) of the "space-sense." Hinton on the law of surfaces.

into space in the fourth dimension. Present, past, and future. Why do we not see the past and the future. Life as a feeling of one's way. Wundt on the subject of our sensuous knowledge	38
CHAPTER V	
Four-dimensional space. "Temporal body"—Linga Sharira. The form of a human body from birth to death. Incommensurability of three-dimensional and four-dimensional bodies. Newton's fluents. The unreality of constant quantities in our world. The right and left hands in three-dimensional and in four dimensional space. Difference between three-dimensional and four-dimensional space. Not two different spaces but different methods of receptivity of one and the same world.	52
CHAPTER VI	
Methods of investigation of the problem of higher dimensions. The analogy between imaginary worlds of different dimensions. The one-dimensional world on a line. "Space" and "time" of a one-dimensional being. The two-dimensional world on a plane. "Space" and "time," "ether," "matter," and "motion" of a two-dimensional being. Reality and illusion on a plane. The impossibility of seeing an "angle." An angle as motion. The incomprehensibility to a two-dimensional being of the functions of things in our world. Phenomena and noumena of a two-dimensional being. How could a plane being comprehend the third dimension?	59
CHAPTER VII	
The impossibility of the mathematical definition of dimensions. Why does not mathematics sense dimensions? The entire conditionality of the representation of dimensions by powers. The possibility of representing all powers on a line. Kant and Lobachevsky. The difference between non-Euclidian geometry and metageometry. Where shall we find the explanation of the three-dimensionality of the world, if Kant's ideas are true? Are not the conditions of the three-dimensionality of the world confined to our receptive apparatus, to our psyche?	73
CHAPTER VIII	
Our receptive apparatus. Sensation. Perception. Conception. Intuition. Art as the language of the future. To what exent does the three-dimensionality of the world depend upon the properties of our receptive apparatus? What might prove this interdependence? Where may we find the real affirmation of this interdependence? The animal psyche. In what does it differ from the human? Reflex action. The irritability of the cell. Instinct. Pleasure-pain. Emotional thinking. The absence of concepts. Language of animals. Logic of animals. Different degrees of psychic development in animals. The goose, the cat, the dog and the monkey.	80
CHAPTER IX	
The receptivity of the world by a man and by an animal. Illusions of the animal and its lack of control of the receptive faculties. The world of moving planes, Angles and curves considered as motion. The third dimension as motion. The animal's two-dimensional view of our three-dimensional world. The animal as a real two-dimensional being. Lower animals as one-dimensional beings. The time and space of a snail. The time-sense as an imperfect space-sense. The time and space of a dog. The change in the world coincident with a change in the psychic apparatus. The proof of Kant's problem. The three-dimensional world—an illusionary perception.	98

CHAPTER X

The spatial understanding of time. The angles and curves of the fourth dimension in our life. Does motion exist in the world or not? Mechanical motion and "life." Biological phenomena as the manifestation of motions going on in the higher dimension. Evolution of the space-sense. The growth of the space-sense and the diminution of the time-sense. The transformation of the time-sense into the space-sense. The difficulties of our language and of our concepts. The necessity for seeking a method of spatial expression for temporal concepts. Science in relation to the fourth dimension. The solid of four dimensions. The four-dimensional sphere.	112
CHAPTER XI	
Science and the problem of the fourth dimension. The address of Prof. N. A. Oumoff before the Mendeleevskian Convention in 1911—"The Characteristic Traits and Problems of Contemporary Scientific Thought." The new physics. The electromagnetic theory. The principle of relativity. The works of Einstein and Minkowsky. Simultaneous existence of the past and the future. The Eternal Now. Van Manen's book about occult experiences. The drawing of a four-dimensional figure.	124
CHAPTER XII	
Analysis of phenomena. What defines different orders of phenomena for us? Methods and forms of the transition of one order of phenomena into another. Phenomena of motion. Phenomena of life. Phenomena of consciousness. The central question of our knowledge of the world: what mode of phenomena is generic and produces the others? Can the origin of everything lie in motion? The laws of transformation of energy. Simple transformation and liberation of latent energy. Different liberating forces of different orders of phenomena. The force of mechanical energy, the force of a living cell, the force of an idea. Phenomena and noumena of our world	136
CHAPTER XIII	
The apparent and hidden side of life. Positivism as the study of the phenomenal side of life. Of what does the "two-dimensionality" of positive philosophy consist? The regarding of everything upon a single plane, in one physical sequence. The streams which flow underneath the earth. What can the study of life, as a phenomenon, yield? The artificial world which science erects for itself. The unreality of finished and isolated phenomena. The new apprehension of the world.	143
CHAPTER XIV	
The voices of stones. The wall of a church and the wall of a prison. The mast of a ship and a gallows. The shadow of a hangman and of an ascetic. The soul of a hangman and of an ascetic. The different combinations of known phenomena in higher space. The relationship of phenomena which appear unrelated, and the difference between phenomena which appear similar. How shall we approach the noumenal world? The understanding of things outside the categories of space and time. The reality of many "figures of speech." The occult understanding of energy. The letter of a Hindu occultist. Art as the knowledge of the noumenal world. What we see and what we do not see. Plato's dialogue about the cavern	156

CHAPTER XV

Occultism and love. Love and death. Our different relations to the problems of
death and to the problems of love. What is lacking in our understanding of
love? Love as an every-day and merely psychological phenomena. The possi-
bility of a spiritual understanding of love. The creative force of love. The
negation of love. Love and mysticism. The "wondrous" in love. Nietzsche,
Edward Carpenter and Schopenhauer on love. "The Ocean of Sex." 166

CHAPTER XVI

The phenomenal and noumenal side of man. "Man-in-himself." How do we know
the inner side of man? Can we know of the existence of consciousness in con-
ditions of space not analogous to ours? Brain and consciousness. Unity of the
world. Logical impossibility of the simultaneous existence of spirit and matter.
Either all spirit or all matter. Rational and irrational actions in nature and in
the life of man. Can rational actions exist alongside irrational? The world
as an accidentally self-created mechanical toy. The impossibility of reason in
a mechanical universe. The irreconcilability of mechanicalness with the exist-
ence of reason. Kant concerning "hosts." Spinoza on the knowledge of the
invisible world. Necessity for the intellectual definition of that which can be,
and that which cannot be, in the world of hidden

CHAPTER XVII

A living and rational universe. Different forms and lines of rationality. Animated nature. The souls of stones and the souls of trees. The soul of a forest. The human "I" as a collective rationality. Man as a complex being. "Humanity" as a being. The world's soul. The face of Mahadeva. Prof. James on the consciousness of the universe. Fechner's ideas. Zendavesta. A living Earth. 198

CHAPTER XVIII

Rationality and life. Life as knowledge. Intellect and emotions. Emotion as an organ of knowledge. The evolution of emotion from the standpoint of knowledge. Pure and impure emotions. Personal and impersonal emotions. The elimination of self-elements as a means of approach to true knowledge. "Be as little children..." "Blessed are the pure in heart..." The value of morals from the standpoint of knowledge. The defects of intellectualism. Dreadnaughts as the crown of intellectual culture. The dangers of morality. Moral esthetics. Religion and art as organized forms of emotional knowledge. The knowledge of God and the knowledge of Beauty.

CHAPTER XIX

CHAPTER XX

The sense of infinity. The neophyte's first ordeal. An intolerable sadness. The loss of everything real. What would an animal feel on becoming a man? The

transition to the new logic. Our logic as founded on the observation of the laws of the phenomenal world. Its invalidity for the study of the world of noumena. The necessity for another logic. Analogy between the axioms of logic and of mathematics. TWO MATHEMATICS. The mathematics of real magnitudes (infinite and variable); and the mathematics of unreal, imaginary magnitudes (finite and constant). Transfinite numbers—numbers lying beyond	
CHAPTER XXI	
Man's transition to a higher logic. The necessity for rejecting everything "real." "Poverty of the spirit." The recognition of the infinite alone as real. Laws of the infinite. Logic of the finite—the Organon of Aristotle and the Novum Organum of Bacon. Logic of the infinite—Tertium Organum. The higher logic as an instrument of thought, as a key to the mysteries of nature, to the hidden side of life, to the world of noumena. A definition of the world of noumena on the basis of all the foregoing. The impression of the noumenal world on an unprepared consciousness. "The thrice unknown darkness in the contemplation of which all knowledge is resolved into ignorance."	254
CHAPTER XXII	
Theosophy of Max Müller. Ancient India. Philosophy of the Vedânta. Tat twam asi. Knowledge by means of the expansion of consciousness as a reality. Mysticism of different ages and peoples. Unity of experiences. Tertium Organum as a key to mysticism. Signs of the noumenal world. Treatise of Plotinus On Intelligible Beauty as a misunderstood system of higher logic. Illumination in Jacob Boehme. "A harp of many strings, of which each string is a separate instrument, while the whole is only one harp." Mystics of The Love of the Good. St. Avva Dorotheus and others. Clement of Alexandria. Lao-Tzu and Chuang-Tzu. Light on the Path. The Voice of the Silence. Mohammedan mystics. Poetry of the Sufis. Mystical states under narcotics. The Anaestetic Revelation. Experiments of Prof. James. Dostoyevsky on "time" (The Idiot). Influence of nature on the soul of man.	270
CHAPTER XXIII	
Cosmic Consciousness of Dr. Bucke. The three forms of consciousness according to Dr. Bucke. Simple consciousness, or the consciousness of animals. Self-consciousness, or the consciousness of men. Dr. Bucke's fundamental error. Cosmic consciousness. In what is it expressed? Sensation, perception, concept, higher MORAL concept—creative intuition. Men of cosmic consciousness. Adam's fall into sin. The knowledge of good and evil. Christ and the salvation of man. Commentary on Dr. Bucke's book. Birth of the new humanity. Two races. SUPERMAN. Table of the four forms of the manifestation of consciousness.	306
CONCLUSION	333

TABLE OF THE FOUR FORMS OF CONSCIOUSNESS