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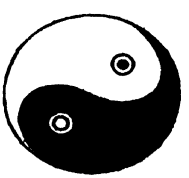
EROS AND PSYCHE

EROS AND PSYCHE

AN ESSAY ON THE CONSTITUTION AND DESTINY OF MAN

BY

Benchara Branford



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DEDICATED

IN LOVE AND GRATITUDE

TO

MY WIFE AND DAUGHTER,

WHO HAVE SHOWN ME THE GLORY OF NOBLE WOMANHOOD

TO ORIENTAL READERS

THE scope of this work is sufficiently indicated by the sub-title.

The title itself, *Eros and Psyche*, is purely symbolic, and appropriate to the Hellenic tradition in the philosophy of the Occident.

The Orient has its parallel symbolisms in the Persian *Zuhrah and Salaman*, the Indian *Adi-Buddha and Prajna*, and the Chinese *Yang and Yin*.

These four symbolic myths, fruitful of thought, are open to a variety of interpretations ; yet all are susceptible, it is believed, of a significance concordant with the present essay.

Admirably harmonising with the macrocosm-microcosm postulate of the essay, the circular symbol on the title-page is taken from the profound medieval philosopher, Chu Hi, who signified thereby the revelation of the Supreme source of existence, wherein " all the extremes " meet (symbolised by the circle), through the intervolutionary union of the Yang and the Yin (symbolised by light and darkness).

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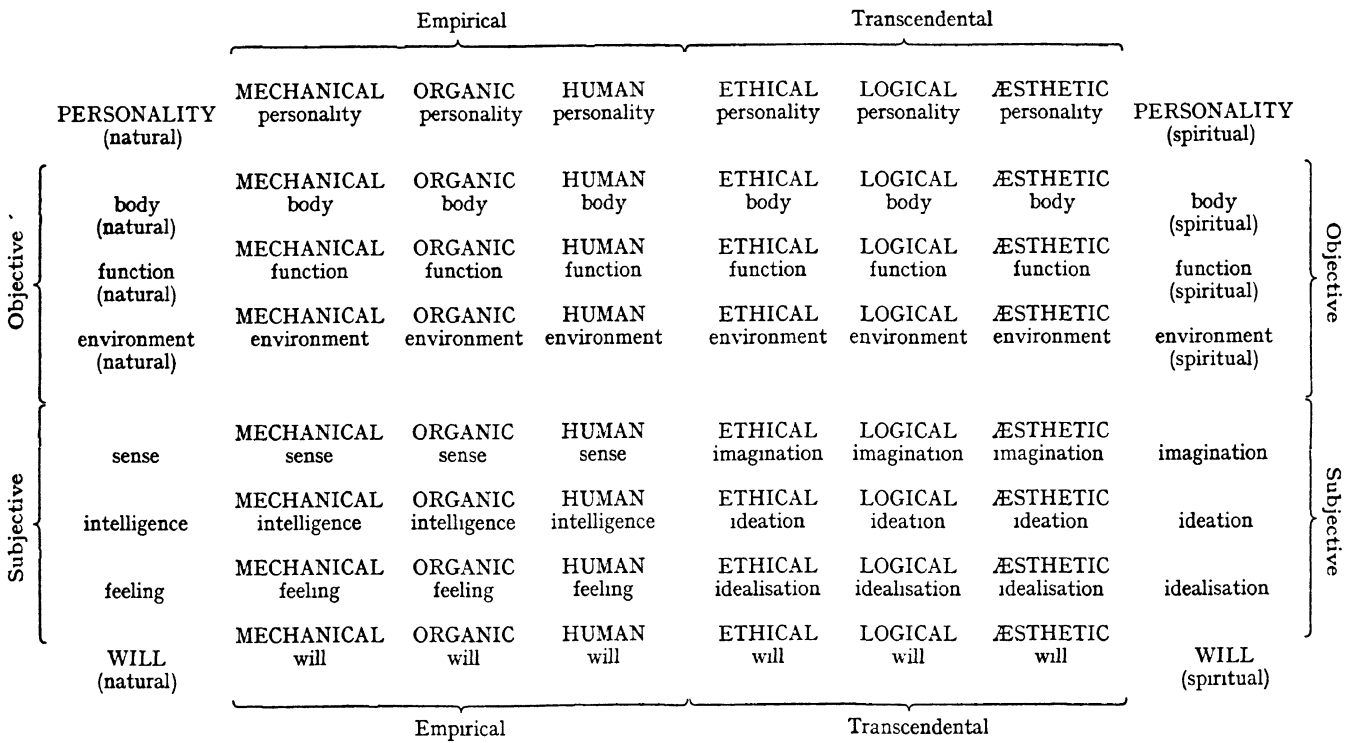
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PATTERN OF MAN'S CONSTITUTION

BOOK I

OVERTURE

CHAPTER I

ORIGIN AND GROWTH OF THE ESSAY

(i)

FOLLOWING the example of the illustrious Descartes in his *Discours de la Méthode*,[1] I venture on a sketch of the origin and growth of the philosophy here presented to the judgment of the public.

In this I am but offering to others what I have, in similar circumstances, ever found agreeable to myself; for I discover a greater sympathy and understanding towards a man's philosophy when he tells me beforehand something of the part it has played in his life.

(ii) A DREAM OF YOUTH

Some forty odd years ago, with the mingled faith and presumption of early manhood, after six years' ardent study over a widely selected field at the University of Edinburgh and the extra-academic schools of that "Modern Athens," I embarked upon this threefold, lifelong dream:

i. A research into the potentialities of man for the attainment of his supreme development towards perfection and bliss—the ancient problem of his constitution and destiny.

ii. As indispensable thereto, the discovery or creation of an architectonic[2] synthesis (not a mere eclecticism, still less a syncretism) of the cardinal philosophic systems of Eastern

[1] 1637—with its thesis *cogito ergo sum*, the affirmation that gave birth to European philosophy of the last three hundred years and filed in the court of public opinion a bill of divorce between mind and body. Judgment is not yet pronounced.

[2] In the Kantian sense.

and Western thinkers, alike ancient, medieval,[1] and modern, in the belief that all these contribute enduring and priceless elements to human culture, and that only in the measure wherein these elements are woven into the texture of a man's life and conduct do they reveal to him their truth and beauty.[2]

iii. And, finally, the foundation of a world-university,[3] centre of teaching and of the further development of such a synthesis, co-operating in sympathetic impartiality with existing national universities.

(iii) VERDICT OF AGE

With the third of these projects I am not here directly concerned save in so far as it has, by its very nature, been an additional permanent stimulus, by research, administration, and travel, to the growth of one's own philosophy, and towards a deepening and enrichment of one's sympathetic understanding of the history, animating spirit, and vast

[1] As a citizen of the West, the author mentions here with lively gratitude his indebtedness to those great Oriental philosophers, Shankara Acharya, and his complement Ramanuja, a pair of thinkers as famous in Indian thought as Plato, and his complement Aristotle, in European.

[2] The value of a man's philosophy is rarely commensurate with, and can never exceed, the degree of development of his character and personality.

[3] In view of such a distant project, invaluable experience was afforded me during 1901–1905 at Sunderland, where, as the first principal of its municipal technical college, under the ægis of the County Borough Council, with its two remarkable citizens, the late Councillors W. M. Roche and Dr. Gordon Bell, I organised that institution on such a foundational design, embracing staff, curriculum, and equipment, as united alternate practical experience in the local engineering and shipbuilding industries with the underlying scientific experiment in the college, and simultaneously fostered its growth towards the ultimate attainment of university college status in the regional University of Durham, itself indissolubly linked with the ancient Cathedral foundation of Northern England—an academic status accomplished, in 1930, in the Faculty of Science in the reign of my successor (Mr. Mundella) during the College Chairmanship of the late Colonel J. Lynn Marr, O.B.E., T.D.

Thus were heart and head and hand to co-operate in the education and training of the student as a whole man in the service of his fellow-men, fitly symbolised in the noble figure of the Venerable St. Bede, of Monkwearmouth, Sunderland.

cultural services to mankind of the world's universities, alike past and present, alike Eastern and Western. In the result, one's youthful conception became enlarged into a vision of a world-university functioning as the scientific partner of a future world-religion, the two co-operating as spiritual complements to the temporal institution now known as the world League of Nations.[1]

In considerable detail I ventured to sketch a programme of the functions appropriate to such a world-university.

Since the publication of that programme five important experiments in the formation of an international college have been inaugurated—in Brussels (the conversion of M. Otlet's sociological institute into a "World-University"[2]), India (the "Visva-Bharati" University[3] of Rabindranath Tagore, Bolpur, Bengal), Palestine (the Hebrew University on Mount Scopas[4]), France (Cité Universitaire Internationale,[5] Montpellier), and recently Spain (International University, Santander). A sixth (an admirable project), to be located at Delphi, is advocated in Greece by Madame Sikelianou, the scholarly, poetical organiser of the Delphi festival in 1930.

From the above five cultural experiments I receive encouragement in the belief that three, at least, were inspired,

[1] Approaching the great problems of world-evolution from the spiritual side, I formed the conceptions of a world-university and of a world-religion many years before the functions to be exercised by a League of Nations were seen to be equally indispensable, though my forecasts of all three developments were published at the same time. I may add that the League still lacks, as it seems to me, an economic (occupational) chamber as an organic instrument of its full functioning. (See my *New Chapter in the Science of Government*, 1919.)

[2] It was proposed to transfer this to Geneva in 1930.

[3] See *Systems of Education, England, Germany, France and India*, by Dr. Zia Uddin Ahmad, 1929, pp. 283–285 (Longmans, Green & Co.).

[4] For a vivid sketch of its development and mission see *World Unity Magazine*, May 1932, pp. 77–90, by Professor Norman Bentwich, M.C. (Weizmann Chair of International Relations in the University) [World Unity Publishing Corporation, 4 East 12th Street, New York City]. The University was formally opened, 1925, by Lord Balfour, during the High Commissionership of Sir Herbert Samuel.

[5] See p. 10.

directly or indirectly, by the above-mentioned programme for a world-university published in 1916.[1]

The development of such colleges in different parts of the world (amongst them a Far-Eastern one is clearly necessary) incorporating, in a designedly international spirit of amity and co-operation, the characteristic cultures of their respective regions and races, renders both more possible and more fruitful the ultimate growth of a world-university that may perform—doubtless in addition to other now unforeseeable functions—those specific services my book suggested.[2]

The hope of the realisation of such a project in what may remain of one's own life can be but faint in a man who has well-nigh completed his sixty-seventh year.

Is it, indeed, reasonable to expect, within the limit of one life, visible fruit from extensive experiments of this spiritual kind? And, unless the fruit is visible, however modest, can its value be judged? The answer from history appears

[1] *Janus and Vesta* (Chatto & Windus, 1916) is now out of print; but doubtless the larger libraries have copies. Continental readers are referred to Izoulet, *Paris, Capitale des Religions* (Albin Michel, 1927), wherein the late Professor of Social Philosophy (Collège de France) does me the honour to devote pp. 75–183 to an exposition of the programme above mentioned; and upon an extension of it (in the Leibnitzian direction) he founds his own policy. To avoid misconception, two remarks are necessary upon the interpretation Izoulet gives of my own general views. This eminent sociologist faithfully presents my project for a world-university; yet he has misapprehended both my conception of *peacedom* (a harmony of the soul), which he confuses with *pacificism* (a creed of war against war), and also my conception of the indispensable function of the great religions of the world in the ultimate development of a religion veritably world-wide in range and scope—misapprehensions owing, doubtless, in part to my own failure in lucidity, and in part, I must surmise, to the natural enthusiasm begotten by his own particular project of a *Moïséum de Paris*. Recent events lend prophetic weight to Izoulet's policy and project for the assurance of world harmony. A like width inspires Sir Herbert Samuel's view of the need of a vast world structure of religious influence.

[2] Similarly it has long been my belief that the League of Nations will find a vastly higher effectiveness by co-operation with similar smaller, yet majestic, "leagues" (or "societies," to use the preferable French idea), continental and regional, *interlinked not exclusive*, throughout the world. Of such interlinked "societies" a *Britamerindian* group might well be one. (See my *New Chapter in the Science of Government*, 1919.)

at first obscure. A pathetic " No ! " seems wafted down the ages when we recall the reputed endeavour of a Plato to educate the younger Dionysus of Syracuse into his philosopher-king (*philosopharchon*), or, two thousand years later, the far-reaching, lifelong policy of Leibnitz to unite a warring Christendom, or the heroic attempt of Berkeley during three sad years (1728–1731) to found his cultural college of religion, science, and art far away in the Bermudas.

Were, then, More (1478–1535), and Bacon (1561–1626), and Campanella (1568–1639) wiser, after begetting their respective *Utopia*, *New Atlantis*, and *City of the Sun*, in the land of dreams, to leave them there as inspiring shades ? And was Plotinus (A.D. 205(?)–270(?)) fortunate that death cut short his project of " an aristocratic and communistic commonwealth," his *Platonopolis*, in Campania on a site that a Roman Emperor, Gallienus, was prepared to grant ?

Yet let us recall the penetrating observation of Comte, that " Utopias are to the art of social life what geometrical and mechanical types are to their respective arts.[1] . . . Every great political change has been ushered in . . . by some corresponding Utopia."

Still more encouraging is the historical appeal of Loyola (1491–1556) with his " Society of Jesus " ; of St. Vincent de Paul (1576–1660) with his fertile foundations of benevolence ; of George Fox (1624–1691), founder of the Quakers and spiritual begetter of William Penn (1644–1718), who realised his " Holy Experiment " in Pennsylvania with Philadelphia, the city he planned therein of *the loving brotherhood* ; of John Wesley (1703–1791) with his Methodism ; and, in our own times, of General Booth (1829–1912), the English Loyola, with his far-flung Salvation Army.

Yes, in the last resort, all such spiritual efforts, as an

[1] Compare the more concrete and scientific " Eu-topian " method of Geddes (see refs. p. 10) ; and the generalisation of the underlying conception in Roth's *Science of Ethics*, dealt with later (p. 43). Comte justly designates Utopias as the poetry of politics. (Comte's *Positive Polity*, vol. i, pp. 229, 230. English translation by Dr. Bridges, 1875–1878. Longmans, Green & Co.)

eternal part of the character and personality of him that wills them, and influential in strict proportion to the truth and beauty with which they have been felt, envisaged, and expressed, spread through the world as waves over the surface of the sea.

There, indeed, lies the true resolution of our doubts ; and the highest evidence is the historical existence of the founders of the great religions of the world in whose life veritably endures their own ; for such is the irreplaceable mission to mankind of their supreme type of genius.

(iv) PHILOSOPHY IS BUT A MIRROR REFLECTING THE UNIVERSE

It is, however, with the two other parts of my youthful dream that the present essay deals.

Every system of thought offers its own attempt at the solution, designed to satisfy the yearnings of the age, of the abiding questions respecting the constitution and destiny of man.

This attempt necessarily takes the form of a systematic development and an evaluation that becomes hierarchical—for it is a spiritual order—of those ideas or categories that the creating thinker deems cardinal in the life of man.

The special marks that characterise such attempts and, in greater or lesser measure, are seen to be indispensable thereto, are, of course, those common to all systems of philosophy.

These marks may be divided into two groups, by no means independent, yet broadly distinguishable.

The first and chief group consists of the major and universally objective qualities of every work of art—for such is a philosophical system [1]—proportion, generalisation, systematic articulation, symmetry, comprehensiveness, lucidity, and consistency : such are the qualities indispensable in the relentless, revealing march of the impartial, passionate logician.

[1] Compare a brilliant essay on *Art et Vérité* by E. Souriau. *Revue Philosophique*, Mars–Avril, 1933. (Félix Alcan, Paris.)

This first group it is proposed to cite as the qualities of *creative logic.*

The second group consists of the rarer qualities of individual subjectivity—inspiration and aspiration, loftiness and profundity, particularisation and subtlety, mystery and obscurity : those qualities, indeed, that mark the striking and paradoxical utterances of saint, sage, and seer, wherein the greater the light, the greater the shadows, even the deeper the darkness.

This second group will be cited as the qualities of *creative mysticism.*

Now the inscrutability, the inexhaustibleness, the ultimately paradoxical appearance of *The All*, on the one hand compel the thinker to fashion his philosophy into a work of art, mirroring, as best he may, *The All* ; and on the other, convince even the greatest that the presence, to a high degree, in their philosophy, of any one of those indispensable qualities conflicts with the presence of the rest ; and this humbling conviction is doubly strong as between the clamant qualities of *creative logic* and those of *creative mysticism.*

And thus it comes about that sacrifice is inevitable,[1] and systems of philosophy, as they deal with the grandest of themes, so are they fated to manifest, of all the works of man, the most severe and humbling imperfections.

Yet each such system enshrines an imperishable germ of goodness, truth, and beauty, whose growth to maturity in the minds of succeeding thinkers is eventually destined to replace the parent form, as, with the advance of the ages, the universe in man and man in the universe reveal themselves, in union indissoluble, everlastingly fresh and anew.

(v) THE GEDDESIAN SOCIOLOGY

Of all the systems, from those of Plato and his complement, Aristotle (" the Father of Logic "), in ancient times, down-

[1] Chi troppo abbracchia poco stringi.

wards through medieval to modern, that one which seems to bring together the several qualities of *creative logic* in highest harmony and greatest measure is the sociological synthesis, system, or interpretative notation of the once biological professor at St. Andrews University, Patrick Geddes,[1] founder and late director of the Scots College, Cité Universitaire Internationale (1924), Montpellier, France.

The lifelong educational labours, the rare constructive genius of Geddes in regional, civic, and university planning in many parts of the globe, " from Dunfermline to Hyderabad, from Edinburgh to New York, from Dublin to New Jerusalem, from London to Montpellier," have, taken all in all, been unparalleled in those particular spheres of human activity; and their steadily increasing, vast fruits bear weightiest witness to the power and potency of the sociological synthesis from which they drew their life.

The Geddesian sociology[2] was itself evolved pre-eminently from the preceding syntheses of two French sociologists, those complementary geniuses, Auguste Comte (1798–1857) and Frédéric Le Play (1806–1882).

Le Play[3] laid bare for Geddes, the evolutionary biologist,

[1] Knighted in 1932; died 17th April, 1932, in his seventy-eighth year. The epoch-making nature of the Geddesian calculus of Sociology was indicated in my *Janus and Vesta* (1916).

[2] For a detailed exposition of this system, consult the following: Victor V. Branford and Patrick Geddes, *The Coming Polity* and *Our Social Inheritance* (The Making of the Future Series): Le Play House Press, The Institute of Sociology, 35 Gordon Square, London, W.C.1; also Victor Branford, *Interpretations and Forecasts* (Duckworth & Co., 1914); also Patrick Geddes, *Cities in Evolution* (Williams & Norgate, London); also *A Study in City Development*, a Report to the Carnegie Dunfermline Trust, by Patrick Geddes, President of the Edinburgh School of Sociology, Dunfermline, 1904. See also P. Geddes and J. A. Thomson, *Biology*, Chaps. V, VI, VII, VIII, IX., Home University Library, Thornton Butterworth, London.

[3] Though The Institute of Sociology and the recently formed Le Play Society, both derived from the original Sociological Society, emphasise the importance of Le Play, his life is still comparatively little known in England; we therefore append extracts from the note upon him by Victor Branford and Patrick Geddes, *The Coming Polity*, pp. 263–4, 1917, where a detailed account will also be found of the scientific principles of " one of the founders of geography and

the foundation of the science of man as a natural being in the geographic triad of " place-work-folk " (*lieu-travail-famille*) as the objective, scientific instrument of social survey and regional planning.

Comte illuminated Geddes, the botanical systematist, upon the age-long, co-related problems of the classification of the sciences and of the cardinal categories of sociology, by his two great conceptions, (i) of a scientific hierarchy culminating in sociology, and (ii) of the historical development of civilisation through the balance and co-operation of the temporal powers (" people " and " chiefs ") with the corresponding spiritual powers (" intellectuals " and " emotionals ").

In summary, through the stimulus of Le Play, Geddes developed from gardening-biologist into geographer, psychologist, and regional planner ; through the stimulus of Comte he developed still further into social historian and Eutopian seer, educator of man and designer of cities.

Though absorbing important inspiration upon economics and art, and their mutual influence, from John Ruskin (1819–

sociology, the supreme miner, the organiser of the first Paris Exhibition, the master interpreter of the industries of the world." Le Play: (1806–1882), born at Honfleur, Normandy ; educated first at home by a priest, then at a local school, and later as mining engineer at the École Polytechnique, Paris ; 1835, Head of Government Committee on Mining Statistics ; 1840, Professor of Metallurgy and sub-Director of School of Mines ; at one time directed a group of miners in the Urals with 45,000 men under him ; 1851, reported officially to French Government on metallurgical products at the Great Exhibition in London ; 1855, organised first Paris Exhibition ; published *Les Oeuvriers Européens* (2nd ed., 6 vols., 1877–1879) based on extensive surveys in Europe and Asia ; 1867, Senator ; 1881, founded *La Réforme Sociale* ; after his death Henri de Tourville, E. Demolins, and other colleagues and disciples, founded *La Science Sociale*, as organ of scientific studies detached from practical interests, and containing systematic monographs of regional communities throughout the world. It was through Demolins that Geddes, as a young man studying in Paris, became acquainted with the sociology of Le Play, a critical point in his education. Le Play and Comte greatly influenced also the massive work in social survey of that pioneer the late Charles Booth (1840–1916) (*Life and Labour of the People in London*, 17 vols., Macmillan & Co., 1903) ; a survey now again being made, under the direction of Sir Hubert Llewellyn Smith, by the School of Economics, University of London.

1900) and his English School[1] the Geddesian philosophy of life is thus substantially Franco-Scottish in its origin and evolution—in its logical lucidity, its vivid concreteness, its synthetic positiveness.

To the great contributions of German philosophy, Geddes and his disciples were antipathetic—a bias that closed to him and to them the complementary insight that metaphysics alone can provide in adequate measure towards the fuller interpretation of the universe.

The late Professor Sir Arthur Thomson has left[2] an admirable obituary of Geddes (1854–1932). To the facts in that account may be added the following fuller details of the scientific activities and outlook of this epoch-making sociologist during his early manhood. These extracts are in his own words.[3]

" 1. *Studies and Experience in Teaching.* Having early decided upon a course of independent study, I spent the four years usually allotted to undergraduate life chiefly in private scientific studies, chemical, botanical, and geological. In 1874 I went to the Royal School of Mines, and after some further preliminary work, entered the laboratory of Professor Huxley, where for two years my time was divided between laboratory work, research, and teaching. In 1877 the Council of University College, London, conferred upon me the Sharpey Physiological Scholarship, —an appointment which carried with it a year's experience as Senior Demonstrator of Practical Physiology, and also permitted me to continue my histological and physiological studies in Paris during the following winter[4] in the labor-

[1] Ruskin himself was Scotch on one side of his ancestry.

[2] *The Times*, 19th April, 1932.

[3] The reference is of interest in itself: *Letter of Application* for the Chair of Botany, Edinburgh University, from Patrick Geddes, Fellow of the Royal Society of Edinburgh and of the Botanical Society; Senior Demonstrator of Botany in the University of Edinburgh and Lecturer on Botany in the Heriot-Watt College. (Accompanied by testimonials from Darwin, Huxley, and others; and list of scientific publications.) 14th February, 1888: addressed to the University Curators.

[4] 1878–1879.

atories of M. de Lacaze-Duthiers at the Sorbonne, and of MM. Wurtz and Gautier at the École de Médecine. The summer of 1870 was spent in helping to organise a Zoological Laboratory and Marine Station in connection with the University of Aberdeen, while the winter was devoted to botanical and palæontological exploration in Mexico.[1] On returning to Scotland in the spring of 1880, I was appointed to organise and conduct the department of Practical Botany in this University (Edinburgh). For three years I also performed the duties of Lecturer on Natural History in the School of Medicine, and in this capacity delivered five courses of lectures, besides special courses on various departments of general biology. Since 1882 I have devoted myself to botanical teaching alone, and in 1886 I was appointed to the Lectureship on Botany in the Heriot-Watt College.

"For upwards of ten years my leisure has been largely spent upon the Continent, with the object of prosecuting my special studies, and of endeavouring to keep abreast of progress in scientific knowledge and methods of teaching in foreign universities and medical schools. I have also worked during three vacations at the Marine Biological Laboratory of Roscoff, have twice occupied the British Association Table at the Naples Station, and have travelled in South-Eastern Europe ; while my expedition to Mexico, besides being productive of some scientific results, and of botanical and palæontological collections, enabled me to gain an acquaintance with the general aspects of tropical nature.

". . . in respect to my scientific work, I trust that a word of explanation may be permitted me. That our present extreme subdivision of intellectual labour necessitates a corresponding attempt at concentrating and organising our knowledge, is universally admitted. Nevertheless, while work within any one of the established fields of specialism gains immediate recognition and reward, the more arduous labour of re-surveying a definite number of these, and of reuniting them under a more systematic

[1] 1879–1880.

culture, has not only usually to await approval until its results can be clearly set forth towards the close of life, but is even apt to be mistaken for the uncertain wanderings of the beginner who has as yet found no definite task. Hence it is that I venture to call attention to the fact that the following list of scientific papers[1] falls naturally into a number of clearly defined series,—dealing, it is true, but this of set purpose, with almost all departments of biology, and ranging in each case from special researches on concrete points up to a summary or rearrangement of the general principles of the subject. Starting with the study of cell-life and structure, and other phenomena common to the vegetable and animal worlds, I have necessarily been brought into incessant contact with the general problems of biology, and have thus been trained for the preparation of a series of comprehensive *Encyclopædia* articles, which constitute the framework of an ultimate treatise[2] on the Principles of Biology."

The Geddesian system, read in 1905 before the then newly-founded Sociological Society[3] (now The Institute of Sociology),

[1] Forty-four in number: 6 on General Botany, 4 on Algæ and Fungi, 4 on Chlorophyll (Vegetable and Animal), 6 on Protoplasm and Cell, 2 on General Morphology (Vegetable and Animal), 4 on General Physiology (Vegetable and Animal), 8 on Evolution (Vegetable and Animal), 2 on General Outlines of Biology, 8 on Zoology and Comparative Anatomy, etc. These were published by the Royal Societies of London and Edinburgh, in the *Comptes Rendus*, in the *Britannica* and *Chambers Encyclopædia*, &c.

[2] A treatise, in two weighty volumes, published at the very end of his long life jointly with his distinguished former pupil, the late Sir (John) Arthur Thomson.

[3] Founded, along with *The Sociological Review* as its organ, on the initiative and by the labours of my late brother, Victor V. Branford, 1903–1905, working under the inspiration of the Geddesian Sociology, and with the loyal co-operation of various friends, including the late Professor L. T. Hobhouse and the late Mr. Martin White, the Dundee manufacturer. It was Victor Branford also, with Geddes, who moved Martin White to found and endow the two chairs of Sociology, in the University of London, the first of their kind in this country.

Perhaps a brother may be permitted here to record the above brief facts, and to add his belief, in respect of the bond uniting Patrick Geddes and Victor Branford, that never has a great genius enjoyed, during so long a period (some forty odd years, indeed, from my brother's early manhood until his death in

was published in its Sociological Papers: Vol. II., pp. 57–119 (Macmillan, 1906) under the title " Civics : as Concrete and Applied Sociology, Part II, by Professor Geddes."

Architectonic is that system in the great sense of that word employed by Boyle, another master-builder in science.

It utilises and co-ordinates thirty-six cardinal and complementary categories of life, illuminating and harmonising many hitherto opposed and famous schools of thought.

Of these thirty-six categories, Geddes, in a subsequent publication, identifies nine as symbolising the respective functions of the famous Muses[1] of the ancient Hellenes, thus, to a high degree of probability, re-discovering the interpretation and scientific basis underlying that great artistic tradition.

(vi)

" Παντὶ γαρ ἐν κόσμῳ λάμπει τριάς, ἧς μονὰς ἄρχει."[2]
Chaldæan (and Pythagorean) Oracle.

Now from my youth upwards I had been elaborating an organically-evolving philosophy of man, and attempting to

1930 in his sixty-seventh year), the support and inspiration of so self-sacrificing, devoted, and loyal a friend, so ardent a disciple and true an interpreter of his special genius, as was my late, esteemed, and lamented brother. In this opinion another loyal and intimate friend of Geddes shared,—the late Professor Sir Arthur Thomson.

See also Victor Branford, *Science and Sanctity, A Study in the Scientific Approach to Unity* ; 1923 (Williams & Norgate, London ; and Le Play House Press, 35 Gordon Square, W.C.1). This work is mentioned as my brother considered it to be his best. Some good judges place first his *St. Columba, A Study of Social Inheritance and Spiritual Development* (Patrick Geddes and Colleagues, Outlook Tower, Ramsay Gardens, Castle Hill, Edinburgh, 1913. The first sociological laboratory in the world was organised by Geddes in the now famous Outlook Tower of Edinburgh).

[1] The Geddesian notation (with some change in nomenclature from the original form) may be found also in Miss Defries, *The Interpreter Geddes* (Routledge & Sons, 1927, Chap. V), where the significance of the nine Muses is also stated.

[2] In every world shines forth a triad, over which a monad rules. *Select Works of Plotinus*, translation by Thomas Taylor, edited by G. R. S. Mead, LXII (London : George Bell & Sons, 1914). Taylor held this principle to be peculiar to the philosophy of Plotinus. It will be found also to characterise the present system.

discover the cardinal categories involved in, and unified by, my conceptions of will and personality—those categories that correspond to the mechanical, organic, and creative (or spiritual) elements, whose activities characterise the whole, individual man complete in reciprocal relation with his universe—not the sociology but the individuology of man.

Meditating continually upon this theme, I was urged by Geddes, an old and intimate friend, to add to my stock of thinking tools the Franco-Scottish sociological notation, system, or calculus, devised by himself, to which specific reference has just been made.

My further experience in this matter may be helpful and encouraging to those who, at the outset, find repellent and uninspiring the philosophical system presented in this essay.

In spite of repeated efforts at that time to understand it, the Geddesian sociological calculus seemed for some time cold, barren, and meaningless. The Indo-Germanic element, by then absorbed in a characteristically English mind, obstinately declined nuptials with this Franco-Scottish sociology.

Then in about my fortieth year one night there came a sudden illumination ; and in the mysterious arcana of the searching mind there took place a pregnant union of the writer's philosophy of man as individual with the Geddesian sociology of man as citizen. At once was born into vivid and enchanting consciousness a new metaphysical calculus of sixty-four, inter-related, cardinal categories, of which thirty-six were the transmuted forms of the Geddesian concepts. The respective dramas of man individual and of man civic united to beget an offspring which, retaining the essential features of the parents, yet, in ultimately developed form, manifested itself as a drama of the cosmos.

> And thus, by the grace of Providence, was born into space and time my *principia metaphysica*, constituted by the scheme of cardinal categories (an *apparatus metaphysicus*) with its interpretation (a *metaphysica cogitata*) ; though it needed another twenty years to test its substantial validity

and to fashion its twin parts, the one into the specific form of the frontispiece, the other into the present text.

(vii) "ORPHEUS AND EURYDICE"

There still remained the problem : Is there to be found, or can there be constructed, a map of life outlining the relative values inherently attached to these cardinal elements of life—in a phrase, a hierarchy of values universally valid ?

This further problem demanded the practical experiment and resultant experience of some additional years based upon an ardent and reverent study of the great religions of the world and of the lives of their founders ; for it became increasingly clear that these were the profound and enduring sources of ultimate authority for the values placed by men upon the cardinal factors of life.

The fruit of this extended experimental research was an analytic synthesis of the cardinal elements of comparative mythology underlying religious doctrine and ritual, and the correlation of those elements alike with the characteristic periods in the life-cycle of everyman, with the great earth-regions, and finally with the fundamental occupations of man.

From the biological and deterministic standpoint of science the religions of man are the spiritual flora of the great earth-regions. Of the six elemental spiritual cultures, islamism[1] breathes the spirit of the desert, con-

[1] These six terms are used to signify not the actual corresponding forms of religion as now or formerly existing, but the permanent eternal spirit inspiring each at its highest and characterising it relatively to the others, *whatever be the names historically borne*—hence the small initials in the above designations of religions instead of the usual capitals. St. Augustine said that the religion known as Christianity had existed always, but received the name of Christianity only after the birth of Christ. The actual form of each at any period, when fully and impartially interpreted alike inwardly (prayer) and outwardly (doctrine and ritual), embraces the substantial elements of the others, and is appropriate to conduct man nobly through all periods of life, with its joys and sorrows, with its duties and rights, with its pleasures and pains, from cradle to grave. All observed forms of religion are analysable into one or more of these fundamental elements or components (e.g. Zoroastrianism, Hinduism, Roman religion, Egyptian, Scandinavian, and so forth).

fucianism[1] the spirit of the river-valley, judaism[1] of the mountain, christianism[1] of the sea, buddhism[1] of the forest, hellenism[1] of the heavens above and the earth beneath, and pre-eminently of the atmosphere and the mine.

To balance these views on the deterministic line of science and in anticipation of our metaphysical conclusions, let it be added that, from the complementary creative standpoint of the philosophy of history, as envisaged in Oriental thought, religion in its turn may be sublimely conceived as the spirit of God in every man recreating continuously his own life and his whole environment, terrestrial and celestial alike ; difficult as it is for the sober Occidental thinker to find place for celestial control in his philosophy.[2]

Finally, there is the respective correlation of these six elemental spiritual cultures with the basal occupations,[3] and pre-eminently with the life (and death) cycle of man, and their rootedness in the six corresponding characteristic periods of man between birth and death (childhood, adolescence, maturity, mid-life, senescence, eld) ; for the essential unity of all culture corresponds to the essential unity of life itself ; though now one period or element, now another, rises into prominence.

On the completion of this long research, I put before Geddes, at Chelsea, in October 1912, the outlines of the religious synthesis, the map of life, and the metaphysical calculus (the constitution of man). His warm approval greatly confirmed my belief in the essential soundness of my work.

During leisure intervals of 1911 and 1912 I also embodied

[2] This conception is far from new to Oriental culture. Mr. Felix Valyi, Editor of the *Review of Nations*, in a lecture on " The Psychology of Asia " remarks : ". . . the ancient Chinese State was a religious institution based on a cosmic foundation, but Chinese religions never forgot that man must live on earth. Heaven, earth, and man were the three powers of the world, but it was man who had to bring heaven and earth into harmony. That was the most fascinating idea in Chinese thought." (*The Times* : 29th November, 1927.)

[3] See *Janus and Vesta*, chap. IV.

the research in a 2-volume manuscript, ultimately entitled *Orpheus and Eurydice*. Upon this I drew for certain sections of *Janus and Vesta*, as stated in 1915 in *The Argument* to that work.

The present essay is a further instalment in substance from the same manuscript ; yet entirely recast in form, and therefore without recourse or reference[1] to the original manuscript, in the hope of attaining thus a clearer and broader vision, a riper maturity, a far simpler and shorter series of graphic diagrams, of the more recondite metaphysical principles elaborated with excess of subtlety and of diagrammatic detail [2] in the first part of *Orpheus and Eurydice*.

(viii) " THE IMAGE OF THE GAME OF LIFE "

The constant testing and use of the metaphysical calculus during the succeeding twenty years has inevitably further strengthened one's confidence in its soundness, as guidance both in private life and in official work.

With such habitual use, communicating it also from time to time, in part or in whole, to friends, it occurred to me, about the year 1910, that the use of so complex a system would be widened and enhanced, and its understanding facilitated, if it were converted into a game with symbolic pieces or counters.

In the pursuit of this idea, to my surprise and delight, I discovered that the game I was thus inventing for the purpose (privately named the game of life and death), allowing for a not unreasonable measure of arbitrary adaptation, substantially coincided with the world-game of Chess.

The game of chess I had, indeed, played with enthusiasm in youth ; but for a considerable period had relinquished it, as it demanded time and cerebral energy needed for educational

[1] With one important exception—the *Excursus* on " *A brief philosophical interpretation of Chess* " (p. 23).

[2] As my friend (the late Sir J. Arthur Thomson, then Professor Thomson) frankly pointed out (though concurring with the general position), when I submitted the original in typescript for his critical opinion in 1913.

duties, without those compensating advantages that accrue from games of a kind complementary to one's occupation. Into my subconsciousness, however, the rules of the game had doubtless penetrated deeply ; so that to what extent the experience of the game had influenced my mental development it is hard to say.

This intimate connection between chess and the philosophy of this essay should render the study of the latter more interesting and less laborious for those readers acquainted with chess ; while, of those who know it not as yet, some may, perhaps, be tempted to embark upon that fascinating game as a relaxation from their ordinary avocations should the philosophy itself as here presented prove attractive.

To readers expert in chess the juxtaposition of chess with a philosophy of life will seem far from strange.

Perhaps others, too, will charitably refrain from straightway condemning the connection as bizarre and declining thereupon further examination of the essay when they give due weight to the saying of no less a world-figure than Benjamin Franklin concerning this greatest of world-games that it is "*the image of the game of life.*"

From its ancient, unknown source in the East, chess has grown to the dimensions of the one universal world-game, wherein may meet in friendly rivalry, men and women, old and young, rich and poor, the deaf, the dumb, the blind, and the lame, people of all nations, tongues, and climes.

As a game in leisure hours chess has long victoriously entered schools, alike for boys and for girls ; and it is now increasingly winning a place even in the sacred curriculum itself.

In addition to the undoubted and inexhaustible fascination of its own special laws, and to the opportunities it obviously offers to planning and execution, to courage and caution, to circumspection and foresight, to resource, decision, and control, to mastery of detail, to judgment of character, to good humour, patience, and magnanimity and other invaluable qualities in the conduct of life, in

addition to all this, has there ever existed any detailed interpretation of the significance of this unique game : does it embody and symbolise any philosophic view of man and his relation to the universe ? In a phrase, was this most complex and inexhaustible of games originally designed to illuminate *the constitution and destiny of man ?*

Is this great world-game of chess in reality the surviving ritual of some ancient system of philosophy of which the re-interpretation had thus come to light ? Or, was it, on the contrary, a mere coincidence of ingenuity rendered possible by one's whilom fondness for the game ? For every mathematician is familiar with the truth that an indefinite number of interpretations are possible of any given system of symbols with the rules of their combinations. At the same time, it is clear that, the more numerous the symbols and the more complex their relations or combinations, the more rapidly increases the probability that any such meaning or interpretation is identical with the original, on the assumption that such an original meaning did once exist over and above the bare existence itself of the game. In so complex a game as chess the probability that my interpretation coincides with some ancient significance of it is thus large.

But there is a further consideration that raises perplexing questions. The rules and symbols of the game thus invented to embody my philosophy, and the resulting diagram, differed in certain important points from those of chess as now played.

What has been the history of this game ? Its genesis and development were alike wrapped in much obscurity at the time of which I am writing,[1] but some enquiry into the matter disclosed the remarkable fact that most of the points of difference just mentioned appear to have been in harmony with older forms of the game.

Living in retirement in the country, I have no longer

[1] This is apparently still true. The *Encyclopædia Britannica* (14th Edition), 1929, says : " The origin of chess is lost in obscurity." The classic work is the massive *A History of Chess* by H. J. R. Murray. (Oxford University Press, 1913.)

access to the archæological researches of the present time, and cannot pursue this matter further. I entertain, however, the hope that some philosophically minded expert on the history of chess may test the hypothesis put forward.

A short list of the main points of difference may be meantime here recorded.

My diagram needs two pairs of partnered players : four kings instead of two kings and two queens : king and knight should have similar moves (that of the knight) : the symbolic piece called a bishop (anglicè) should be an animal (or a plant), and the castle (or rock) should be a man; and it should be possible to capture the kings, not merely " checkmate " them.

So far as is known, the older forms and rules of chess harmonised with these points. In particular, the custom of playing the game with four players seems to have survived into modern times as the late Lord Haldane mentions in his *Autobiography* having taken part in such a combination.

It should be added that a small work on the subject is in hand : meantime, the reader expert in chess may find an interesting problem in the interpretation of the analogy between chess and the philosophical diagram in the frontispiece—either before studying the main text, or thereafter.

As an aid in the solution of the problem for such readers the following general observations are added, followed by an Excursus sketching the solution of the problem.

(1) Excluding the merely explanatory words (" empirical " and " transcendental " above and below, and " objective " and " subjective " at the two sides) the diagram proper of man's constitution contains eight times eight, or sixty-four, spaces, as on the chess-board, composed of eight rows and eight columns.

(2) Each of the eight terms in the spaces of the top row sums up respectively the group of three terms immediately below it in its corresponding column ; thus these eight terms are *summary* (or main) terms.

(3) Likewise for the eight terms in the bottom row—also *summary* terms.

(4) The eight main pieces of chess derive, one by one, in their usual order of arrangement on the board from these *summary* terms, the white (say) from the top row, and the red correspondingly from the bottom row.

(5) The sixteen pawns are necessary to delimit the original, protecting frontiers of the main pieces.

(6) The remaining thirty-two spaces form the original field of operations, for which purpose the terms therefrom are removed, after fulfilling their functions in defining the quality of the respective *summary* terms.

Excursus

A BRIEF PHILOSOPHICAL INTERPRETATION OF CHESS

There are 64 elements in the diagram of man's constitution (frontispiece) and 64 squares on the chess-board.

Let us for a moment replace the two queens by two kings, so that there are four kings : in ancient times there were, it appears, four kings in chess. Let us in thought similarly replace the bishops by elephants : in ancient times the bishops were, it appears, elephants (or other animals ?).

The modern knight, or horse's head, was, in earlier days, a knight on horseback, and the castle was an elephant with driver (possibly, the god Indra).

The forms of the pawns also were varied in different groups corresponding to the chief pieces behind them. Neglecting the pawns for the moment, we have now four identical sets of chief pieces, each consisting of :

king (or queen)
bishop (or elephant)
knight (or man on horseback)
castle (or man on elephant).

Thus there may be four players : in ancient times there were, it appears, four players. These four players are the

four worlds in each man, or the four worlds in each human society ; and the four quarters of the chess-board are the four corresponding worlds in which each man, or group of men, can live.

The natural personality of man in the world of space without.	The spiritual personality of man in the world of eternity without.
The natural will of man in the world of time within.	The spiritual will of man in the world of eternity within.

The four worlds.

I. *Man as a Natural Person in the World of Space without (the Natural Object-world)*

Here everyman is { human as comrade, organic as animal, material as machine.

The comrade in everyman is higher than the animal in that man, and the animal than the machine ; and yet each is dependent on the other, a trinity in unity.

We therefore place the pieces thus. See Plan I (opposite).

The " queen " may remind us of the human family and folk-craft of the woman—each babe (man or woman) deriving something feminine from its mother—and so the " queen " may well represent everyman as " comrade."

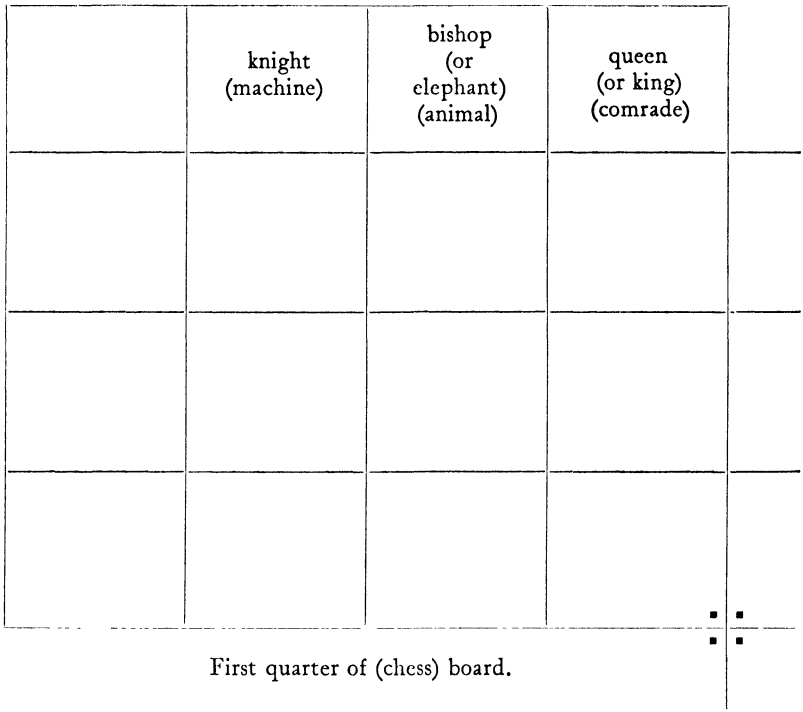
The elephant (bishop) may remind us of the organic, and so of everyman as " animal."

The knight (or man on horseback) may remind us of strength and speed, and so will represent everyman as a " machine."

What of the castle ?

This is the whole natural personality—everyman alike as mechanical, organic, and human.

PLAN I.



First quarter of (chess) board.

II. *Man as Natural Will in the World of Time within (the Natural Subject-world)*

Here everyman as { human is humanist, organic is naturalist, material is physicist,

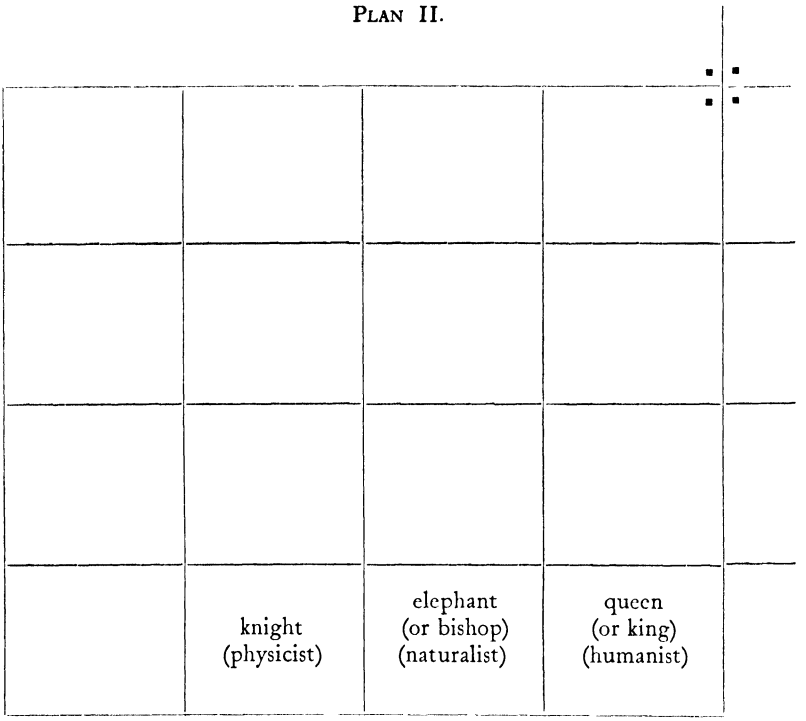
and again the humanist in each man is higher than the naturalist in that man and the naturalist than the physicist in the same man.[1] But let no misapprehension arise : in reality every man is three in one and one in three—a truth to be re-applied in each of the three worlds to follow.

We therefore place the pieces thus. See Plan II (page 26).

The queen may remind one of the love and sympathy of the

[1] See also footnote 2 on p. 27.

PLAN II.



Second quarter of board.

woman's soul ; of hate and antipathy we speak not here, believing these to be the negative conditions of the growth of positive love and sympathy : and likewise for all evil sides of these manifold powers of man complete. Thus we symbolically represent man as " humanist."

The elephant (or bishop) may remind us of the animal and plant elements in every man's soul—and so symbolically represent man as " naturalist " : for it is as animal and plant himself that man enters into and understands the life of other animals and plants, and so becomes the " naturalist."

Similarly, with body (an element of the natural personality) endowed with strength and speed, the corresponding aspect of the soul of man enables him to enter into and grasp nature as mechanical, and he becomes a physicist (or mechanic).

What of the castle ?

This is the whole natural will of every man—alike as mechanical, organic, and human.

III. *Man as Spiritual Will in the World of Eternity*[1] *within (the Supernatural Subject-world)*

Here everyman as { superhuman is mystic, superorganic is seer, supermechanical is poet,

and again the mystic[2] in every man is higher than the seer[2] in that man, and the seer[2] than the poet[2] in the same man. See Plan III (page 28).

The " horse " of this spiritual knight may be thus interpreted as " *Pegasus*," the famed steed of poetry. We may link also the bishop of souls with the shepherd of bodies.

The king symbolises the supremacy of the mystic, apprehending ideal[3] justice : the bishop symbolises the seer contemplating ideal truth : and the " knight " (Pegasus) symbolises man as poet, imaging ideal beauty.

And again, what of the castle ?

This is the creative will of every man—converting the castle of the soul into its sanctuary.

IV. *Man as a Spiritual Person in the World of Eternity without (the Supernatural Object-world)*

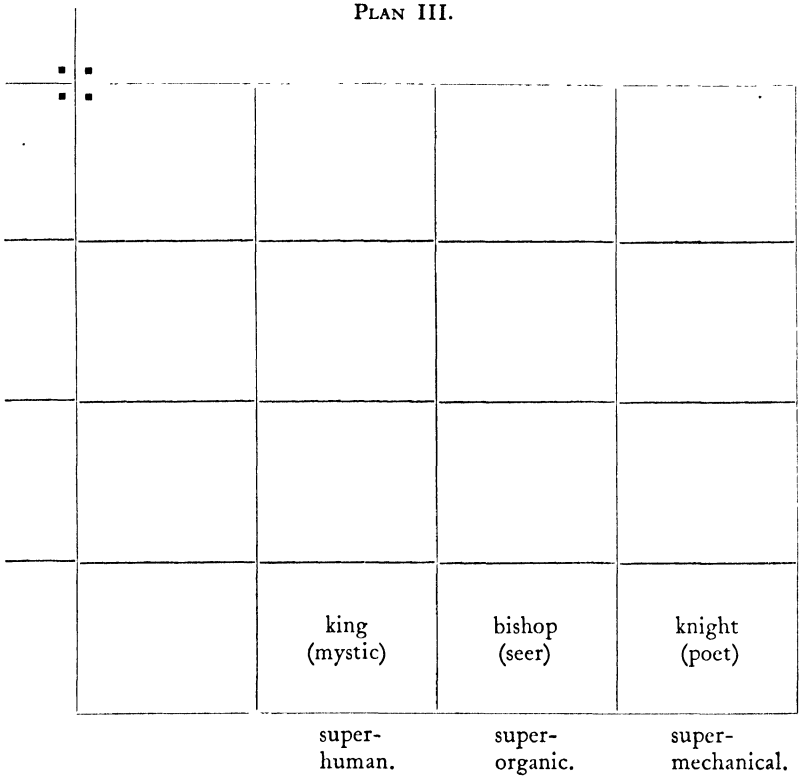
Here man as superhuman (in conduct) is hero or saint, as super-organic (in behaviour) is sage, as supermechanical (in skill) is artist.

[1] Eternity is not timelessness : nor endless time, nor an " everlasting now, " in boundless space : but Eternity creates perpetually space, the body of time, and time, the psyche of space, wherewith, as our vision of man later sets forth, man weaves his destiny.

[2] No comparison is intended between one man who is dominantly a mystic, another dominantly a seer, and a third a poet : the hierarchy applies to these respective elements of one and the same man only. Similarly for the other corresponding triads.

[3] " Ideal, " as distinguished from natural, justice. (After Henry Sidgwick, 1838–1900.)

PLAN III.



Third quarter of board.

And as the hero in every man is higher than the sage in that man, and the sage higher than the artist in the same man, though none can reach its highest without the co-operation of the other two, we place the pieces thus. See Plan IV (opposite).

As hero, every man is a king of state-craft and a king of priestcraft in the world of heroic and saintly deed and drama : as sage, every man is a bishop, a shepherd of souls, in the world of culture and behaviour : as artist he rides the steed of Pegasus, a creator in the world of skill and power and beauty.

And once again, what of the castle ?

PLAN IV.

	super-human	super-organic	super-mechanical	
	king as hero	bishop as sage	knight as artist	castle (temple of spirit)

Fourth quarter of board.

This is the whole spiritual personality of every man—converting the castle of the body into the temple (or dungeon) of the spirit.

* * * * *

Let us now regard every man under these four aspects :—as dreamer with his spiritual will, as demiurge with his spiritual personality, as worldly-wise man with his natural will, and as plain man with his natural personality. Thus we have this diagram of the quarters of the board : [1] See Plan V (page 30).

[1] See also p. 83, footnote 1 and text, Book II. 1, 2, 3, 4, respectively: thinker and doer, contemplator and creator.

PLAN V.

world of the plain man [2] — machine / animal / comrade	world of the demiurge [4] — artist / sage / hero
world of the worldly-wise man [1] — physicist / naturalist / humanist	world of the dreamer [3] — poet / seer / mystic

The "Moves" of the Pieces.

	mechanical	organic	human	
castle	knight 3	(bishop) or elephant 2	king 1	
	6	5	4	
	9	8	7	

The human becomes the material, or acts upon it, only by passage through the organic (dust becomes life, and then human life).

King and knight should thus have similar " moves."

In ancient times, king and knight had, it appears, similar moves.

To bring knight from 3 to 1, by this move, proceed thus : 3 to 8 and 8 to 1.

The castle, being the home alike of mechanical, organic, and human, has thus its well-known move parallel to the sides, not diagonally.

Life may pass directly into the human, or into dust (matter) : so there is left for the bishop the diagonal move.

The moves of the pawns are the simple acts of life : quicker at the beginning of life (two squares), slower (one square) thereafter : they are always in one direction : life is finite.[1]

Thus we have perhaps the primitive conditions of the game, where there are four players, each with a set of 8 similar pieces : and the combinations are numerous.

The game is lost by any player when his " king " is check-mated, (lost)—either comradeship, or humanity, or religion (inner), or courage (hero).

When man, losing his humaneness, sinks into the mere animal, he becomes " brute," and life and health become disease and death.

When the player loses his bishop and knight, the end is again threatening: man complete and victor must be a healthy animal, and an efficiently working machine.

In later times, two of the kings become queens, and the four players become two.

The Duality of Man and his Universe

Mark well the inherent duality of man's universe.

Just as the two castles are mutual co-operants in chess, so in life are the natural and the supernatural, experience and experiment, the temporal and spiritual; the loss of either is a weakening of the other.

[1] During each incarnation. The queening of the pawn on reaching the extreme edge symbolises re-incarnation.

And likewise of the two knights : artist [1] and mechanic [1] in the object-world, poet [2] and physicist [2] in the subject-world, must flourish together if they are to flourish greatly.

And likewise of the two bishops: healthy animal and practical sage in the object-world, naturalist and philosopher in the subject-world, are inherently allied.

And likewise of king and queen: comrade and hero in the object-world, humanist and mystic in the subject-world, are also inherently allied.

Life and Truth, Love and Duty, Use and Beauty : or Disease and Error, Hate and Horror, Futility and Squalor

And the four players—are these not symbolical of the four primordial men in each man ?

1. The " plain " man in the natural world without, the object-world, at once active as efficient or inefficient machine, as healthy or diseased animal, as loyal or traitorous comrade.

2. The worldly-wise man in the natural world within, active at once as intelligent or ignorant physicist, wise or foolish naturalist (hygienist), friendly or hostile humanist.

3. The dreamer of dreams in the spiritual world within (the world of the cloister and sanctuary), contemplating noble ideals or ignoble idols, true ideas or false illusions, beautiful imagery or ugly phantasms.

4. The creative demiurge in the spiritual world without, active at once as saint or sinner, sage or fool, philanderer or artist.

[1] " Sir William Llewellyn, President of the Royal Academy, in his address to the students of the Royal Academy Schools, at the distribution of prizes at the Royal Academy last night, emphasised the importance of craftsmanship. . " The first essential quality of a good artist, he said, was that he should be a good workman. If they had something to say, something to tell the world, and had not mastered their craft, they must fail as artists, for it was through craftsmanship that art came to life." (*The Times*, 8th December, 1933.)

[2] Note the interesting fact that more great poets are associated with Cambridge University, famous for science, than with Oxford, famous for the humanities.

And as in each man these four primordial men are potentially good and evil, it is primarily within himself that the game of life is played by each man, the powers within him now ranging themselves on this side, now on that,[1] a game more complex than the modern chess with two players.

The plain man, the worldly-wise man, the dreamer, and the demiurge may co-operate or struggle in divers ways.

And as no man lives unto himself alone, but can evolve, for good or for ill, only in an environment of things and life and fellow men, so the game of life primarily within the body, soul, and spirit of each child, woman, and man, develops in ever-widening circles into the great game of life in the majestic, objective world of interpenetrating nature and spirit, evolving, by the agency of man, past, present, and future, his two types of worlds:—the World of Good where the true marriage of utility and beauty in masterly skill, of health and culture in the enrichment of body and soul, of merciful humanity and self-sacrificing duty in the glorious service of our fellow-beings—ever a godlike trinity in unity—can create a heaven upon earth:—or the World of Evil, where the foul fornication of futilities and squalor in slavish drudgery, of disease and folly in the impoverishment of body and soul, of adamantine inhumanity and self-seeking ambitions in the deadening despotism of one's fellow-beings—ever the three-headed Cerberus—can equally create a hell upon earth.

ADDENDUM : on the inexhaustible character of Chess the famous mathematician, Jules Henri Poincaré (1854-1911), gave this opinion in his article on *The Nature of Mathematical Reasoning* (1894) ; (mathematical) induction is possible only if the same operation can be repeated indefinitely : thus the theory of Chess can never become a science : the different moves of the game do not resemble one another. [See Dr. T. Dantzig, *Number*, 1930, p. 73.]

[1] Here subsist the perennial conditions for the sphere of Zoroastrianism.

CHAPTER II

THE PURPOSE OF THE ESSAY

FOR what readers, for what purpose, is this essay designed ? Not for any disciple of any one of the great religions of the world in East and West ; for such a disciple possesses therein a map of life incomparable for his own particular guidance.

Not for such an one is this essay primarily designed ; though it may perchance shed some additional light upon the life of man, at once simple and mysterious. If any such take up this essay, I would beg them, in all sincerity and moved by sympathetic recollections in my own experience, wherever they may find essential differences between the views of life here expressed and the teachings of their own community, to prefer the latter without hesitation as being for them far the wiser path to follow and the truer faith to hold. For such readers, only so far as this essay confirms, enriches, or illuminates their faith can it be of lasting value. Whosoever at any time, and particularly in these times, shall carelessly or callously undermine, or even shake, the settled faith of one believer takes upon himself the grave responsibility of replacing that faith by a nobler. Such an achievement is rarely possible.

For what readers, then, for what purpose, is this essay designed ?

It may, perchance, have the good fortune to appeal to those, in these times many and increasing, who have vainly sought some firm ground on which to stand, and provide these with a more clear and unified view of life, a widening of horizon without its too common accompaniment of obscurity, confusion, and perplexity, a possible means of harmonising

the conflicting demands of the times, some illumination of the deeper sense, meaning, and significance of the vast events happening around us. All these ends it is hoped this essay may further.

Yet the supreme end, the moving power in the development of my philosophy during forty years, still remains the steady passion to share with my fellow-beings my experience of the increasing wonder and glory I see in man and in nature, my deepening faith in the All-holy-spirit, alike immanent therein and yet transcendent thereto, and the steadily growing measure of tranquillising bliss flowing therefrom into my own life and its manifold activities.

CHAPTER III

THE TREND OF WORLD-ORIENTATION

(i)

DURING the past twenty years this essay has been drafted and re-drafted well-nigh as many times as the years that have flown—so difficult has it been found to fashion the presentation of my metaphysic in a form that seemed acceptable and adequate. Meantime, there were also one's multifarious official[1] duties to be performed ; though, from another standpoint, this experience was of priceless value as offering so wide a field, and a duration so substantial, for the application and testing of one's life-philosophy.

The chief consideration, however, that influenced me in withholding the system from publication was the fact that, twenty years ago, the pre-war time-spirit of the age itself was clearly not friendly to my particular world-orientation ; while the difficulty readers experienced in following simple outlines thereof was sufficiently evidenced in the instalments I ventured to put forward even in the changing atmosphere of the Great War in 1916 (*Janus and Vesta*), in 1919 (*A New Chapter in the Science of Government*),[2] and in other subsequent publications.

But the departure of old friends and the rapid passage of the years at the author's time of life warn him that this present life is not indefinitely prolonged ; and that a final decision is necessary upon the form one's present contribution is to take.

[1] During the period 1905–1929, the author was divisional inspector in Education and chief mathematical expert to The Education Committee of the London County Council.

[2] Now out of print.

Fortunately, recent movements amongst leaders of the various branches of systematic thought and of world-opinion have been in the directions long adumbrated by the writer, and in substantial harmony with his own world-orientation.

It is proposed to consider first the present position in metaphysics, and subsequently the general trend of modern world-opinion.

(ii) RENASCENCE OF ENGLISH METAPHYSICS

In the field of metaphysics itself, now increasingly recognised in this country,[1] as it has long been abroad, as the conscious or subconscious root of all fruitful scientific thinking, whether in the natural sciences or in the spiritual—and inevitably more creative and manifest in the thinker himself than in the records of his work, for, in Kant's dictum, it is not thought a philosopher teaches but a thinking man to think better—the twentieth century is witnessing a veritable renascence in English metaphysical study. Does not

[1] Compare Dr. A. N. Whitehead in the following passage, which, in other respects also, merits weighty consideration:

"I have endeavoured in these lectures to compress the material derived from years of meditation. In putting out these results, four strong impressions dominate my mind: First, that the movement of historical, and philosophical, criticism of detached questions, which on the whole has dominated the last two centuries, has done its work, and requires to be supplemented by a more sustained effort of constructive thought. Secondly, that the true method of philosophical construction is to frame a scheme of ideas, the best that one can, and unflinchingly to explore the interpretation of experience in terms of that scheme. Thirdly, that all constructive thought, on the various special topics of scientific interest, is dominated by some such scheme, unacknowledged, but no less influential in guiding the imagination. The importance of philosophy lies in its sustained effort to make such schemes explicit, and thereby capable of criticism and improvement.

"There remains the final reflection, how shallow, puny, and imperfect are efforts to sound the depths in the nature of things. In philosophical discussion, the merest hint of dogmatic certainty as to finality of statement is an exhibition of folly" (*Process and Reality*, an essay in Cosmology, Preface (Cambridge University Press, 1929)). Professor Whitehead terms his scheme the "Philosophy of Organism" and names Locke as the writer who most fully anticipated its main positions.

such a renascence well befit the countrymen of Scotus Erigena (abt. A.D. 810–880), John of Salisbury (abt. 1117–1180), Roger Bacon, Doctor mirabilis (1214–1292), Duns Scotus, Doctor subtilis (abt. 1270–1308), and William of Occam (abt. 1275–abt. 1349), philosophic giants of the Middle Ages (wrongly [1] called " dark " by the prideful spirit of later centuries), of Lord Bacon (1561–1626) and Hobbes of Malmesbury (1588–1679), heralds of modern science (including sociology), and of Locke (1632–1704), Berkeley [2] (1685–1753), and Hume (1711–1776), initiators of the modern critical philosophy of experience,—the last also awakener of Kant " from his dogmatic slumbers," and named by Comte himself as his principal philosophical predecessor.

Not again, we hope, will it be necessary, as with Professor Hallett, to strike the apologetic note (*Aeternitas*, p. v, 1930) :

> " Though I am an Englishman, my belief in metaphysics as the source of genuine knowledge of the Real is naked and unashamed " ; " but " (he continues, at once explaining the indifference, shall we say contempt, of our countrymen in modern times towards metaphysics, and offering the remedy) " metaphysics must not be conceived as remote from the most fundamental interests of the spirit of man : the circle of human knowledge returns upon itself, and its most remote point is therefore to be found among our most intimate and deeply felt concerns."

(iii) " WHAT IS THE REAL JULIUS CÆSAR ? "

In contemplating this re-birth of English metaphysics, so intimately allied (as will presently be seen) with the great

[1] An opinion long shared by the author with architects, theologians and sociologists, and now winning favour with recent philosophers and historians. Among the latter is Nicholas Berdyaev, *The End of our Time* (Sheed & Ward, 1933) : this founder and head of the Academy of the Philosophy of Religion (Paris) and ardent disciple of that lofty and penetrating prophetic genius, Joseph de Maistre (1754–1821, *du Pape*, 1817) regards the first Italian renaissance during the fourteenth century, the *trecento*, as the zenith of European civilisation.

[2] Of things empirical the *esse* is *percipi*, of things spiritual the *esse* is *percipere*.

Spinoza (1632–1677) and his predecessors, one is irresistibly reminded of the prophetic saying :

> " When the trumpets sound for an advance the graves open : the sleepers awake and come from afar."

Nor is this memory unconnected with the mighty and enduring influence of the still more famous personality cited at the head of this section in the question asked by F. H. Bradley (1846–1924), that penetrating critical pioneer who foresaw, as well as contributed to, this renascence of metaphysical science.

So well-known is Bradley's *Appearance and Reality*[1] that it has unduly masked the work (greater, as I think) of his ripe old age, *Essays on Truth and Reality*.[2] Of these essays (unsystematised, it is true, in form) Chapter XIV alone, entitled " What is the real Julius Cæsar ? ", in nineteen deeply-delving pages, is more inspiring, more illuminating (if also darkening the shadows as with all light save the Light of Eternity) on Bradley's deepest convictions and on the inscrutable profundities of truth and reality than any of his other writings. This essay is a reply to a challenging statement of that acute and subtle logician, Bertrand Russell[3] :

> " Returning now to Julius Cæsar, I assume that it will be admitted that he himself is not a constituent of any judgment that I can make." [4]

To which Bradley at once replies :

> " To my mind the opposite of this admission appears to be evident."

The riddle of the sphinx is set : the arch-detective of reality enters on his thrilling quest of " the foremost man of all this world."

[1] Published originally by Allen & Unwin ; later by the Oxford Press.
[2] Oxford : Clarendon Press, 1914.
[3] Now Lord Russell.
[4] As quoted by Bradley from *Proceedings of the Aristotelian Society*, vol. xi, pp. 118–19.

For those with a philosophic bent, this essay of Bradley's ripest thinking is more fascinating far than even the most intriguing adventure of Sherlock Holmes himself; for the quest is nothing less majestic than an answer to the ancient riddle: "Where (if any where) is man after death?"—and, be it added, before birth? For are not these the twin faces of Janus, genius of past and future united in the present? The study of this profound analysis gave me courage to proceed with my own research into the sense, meaning, and significance of that ultimately inscrutable thing, *personality*.

(iv) SOME RECENT ENGLISH MASTERPIECES IN METAPHYSICS

I have spoken of the renascence of metaphysical study in our own country. As ample evidence of this, witness the following four massive creative systems among other important contributions (I cite those works alone with which I am familiar, without instituting comparisons,[1]—either amongst these, or of these with others):

(1) *The Nature of Existence*,[2] by J. McT. Ellis McTaggart (1866–1925), edited by Professor C. D. Broad, who ranks it, justly as I think, with the *Enneads* of Plotinus, the *Ethics* of Spinoza, and the *Encyclopædia* of Hegel (with its wonderful treatise on Logic). For one great service alone, this work should endure long: it is, I

[1] I have tried herein to profit by the sensible and witty admonition of M. le Chevalier de Jaucourt (1704–1779), the French encyclopædist and author of the life of Leibnitz:

> "les comparaisons sont des pas glissans, et celles qui entrent dans les éloges, ne connoissent gueres les loix de l'équilibre: voilà le malheur."

an admonition evoked by the controversy upon the priority of discovery of the differential calculus (method of fluxions) between Leibnitz (1646–1716) and our English Newton (1642–1727), to whom I have the honour, through my mother, to be a kinsman. The above quotation is from *Essais de Théodicée sur la Bonté de Dieu, la Liberté de l'Homme, et l'Origine du Mal, par M. Leibnitz. Nouvelle Edition, Augmentée de l'Histoire de la Vie et des Ouvrages de l'Auteur, par M. le Chevalier de Jaucourt*: Tome premier, p. 180 (à Amsterdam, chez François Changuion, 1747).

[2] 2 vols., Cambridge University Press.

think, the first masterly presentation in English philosophy of a world-view that incorporates the ancient eastern doctrine of re-incarnation.[1] Moreover, many readers, whom the metaphysical ambiguities[2] of the first volume will perhaps repel, may find pleasure, rare and refreshing, with great profit, in the second volume, whereof the sections on the significance of love (the central core of McTaggart's metaphysics) and those that follow and conclude the work frequently attain a moving and profound eloquence.

In respect of this philosopher's conception of Deity (this logical defect does not invalidate[3] his profound intuitions) it has been penetratingly objected (by Dr. Oman[4] of Cambridge) that McTaggart dispenses with Deity as sustainer of unity among the manifold selves[5] of his system by substituting in place thereof his system itself—thus implicitly postulating a unifying self of selves.

(2) *Space, Time and Deity*,[6] (the Gifford Lectures at Glasgow, 1916–1918), that pioneering masterpiece of the spatio-temporal by S. Alexander, O.M., a work wherein he re-animates for us, in the light of modern sciences, by persuasive dialectic, this marvellous world of matter and life and man, and thereby massively underpins the foundations of those sublime intuitive creations of poets and artists of all ages and climes.[7]

[1] Probably absorbed during the youthful visit of the philosopher to India, and strengthened by intercourse with acute Indian students subsequently attending his lectures at Cambridge.

[2] See also C. D. Broad, *Examination of McTaggart's Philosophy*: vol. i (Cambridge University Press, 1933): a stimulating logical critique of McTaggart's first volume: that philosopher's admirers await with keen interest the second volume of Dr. Broad's *Examination*.

[3] See the author's *Janus and Vesta*, Chaps. XII and XIV.

[4] *The Natural and the Supernatural* (Cambridge University Press).

[5] Coinciding therein with the famous Indian *sankhya* system, attributed to the sage Kapila.

[6] 2 vols. Macmillan (1st Edn., 1920). New impression, 1927.

[7] As Bradley, doubtless, would fain have succeeded in doing,—the Bradley who, after quoting with approval from Shelley's *Sensitive Plant*, with his customary self-belittling irony, utters these words:

"I do not know whether this in my case is a mark of senility, but I find myself

"Time is the mind of Space and Space the body of Time."[1] Such is the great seminal principle of Alexander's thesis. Such is also one of the cardinal principles of the present essay, with this vital qualification—that here we limit its application to nature as phenomenal (*natura creata*), and thus also to man as phenomenal (*homo creatus*); and so our delimited statement of it becomes: time is the psyche of space and space the soma of time, wherein psychosis as the function of the psyche is the correlative of somatosis (wider than mere neurosis) as the function of the soma (the whole body, not merely nervous "structure").

This exclusion both of nature as spiritual (*natura creans*) and also of man as spiritual (*homo creans*) from time and space in our vision and assay of man and man's universe flows from the transcendent significance of Eternity; whence, also, it is that Alexander's evolving God becomes, in our own essay, an inchoate, and thus evolving, world of man in nature and of nature in man.

(3) The massive sequence of philosophical works by A. N. Whitehead,[2] wherein an organic view of the cosmos is presented with the illuminating detail of a subtle and penetrating master of modern mathematics[3] and physics.

now taking more and more as literal fact what I used in my youth to admire and love as poetry." (*Essays on Truth and Reality*, p. 468, f. 1.)

His friend, Lady Welby, tells us that Bradley agreed that "the stage of mere truth-seeking is transcended more or less in all our lives." We are reminded of the saying of Comte that we tire of thinking, never of loving.

There is, however, a greater truth, that is one with love, and one with beauty—that trinity of the real being of loveliness upon which the delighted spirit eternally feeds.

[1] *Space, Time and Deity*, pp. 38, 39.

[2] Confining the list to those the writer knows, we have: *Science and the Modern World, The Concept of Nature, An Enquiry concerning the Principles of Natural Knowledge, Religion in the Making, Process and Reality* (Cambridge: University Press). For penetrating critiques alike of Alexander's and of Whitehead's metaphysical positions, see Hallett's *Aeternitas* below.

[3] For an appreciation of the philosophical significance of *Principia mathematica* (Cambridge: University Press) the great mathematico-logical treatise of Whitehead and Russell, see my review in *The Journal of Education*, May 1913—further developed in *Janus and Vesta*, chap. XI.

(4) *Aeternitas*, by Professor H. F. Hallett,[1] so profound and admirable a revelation and development of the thesis of Spinoza as to appear the work of a modern re-incarnation of the genius of that renascence thinker ; so that we are tempted to apply to him in relation to Spinoza the words that St. Augustine used of Plotinus in relation to Plato : " Ita ejus similis judicatus est, ut . . . in hoc ille revixisse putandus sit " (*De Civitate Dei*). This work is a masterpiece on the inexhaustible theme of time, duration, and Eternity, and will surely become a classic.

To the above works I would add, in an allied branch of philosophy, that little gem, *The Science of Morals*, by Dr. Leon Roth.[2] In accord upon this vital matter with the saying of Dean Inge, in his penetrating study of Plotinus, that " the conduct of life rests on an act of faith, which begins with an experiment and ends with an experience," Dr. Roth sees the life of man as a rhythm of experiment and experience.[3]

Boldly extending to the realm of morals this scientific postulate hitherto largely restricted to the physical sciences and their applied arts, Roth interprets in its light the creations of playwright and novelist as representing man's more daring ventures in ethical experiment ; thus, from this significant point of view, Molière (1622 (?)–1673), whose genius a like conception may well have inspired, in his famous *Tartuffe* isolates that type of character (the hypocrite) and works out its consequences precisely as Ricardo (1772–1823) speculates on " the economic man " : and history itself is the record of similar experiment in the social arts.

Again, " values " (the good, the beautiful, and the true) must be studied in the actual instances of the historical good, beauty, and truth—gigantic experiments in the

[1] Oxford : The Clarendon Press, 1930. *Mind*, April 1933 and July 1933 (Macmillan & Co.), contains a long review by Professor C. D. Broad. Interesting, useful, and suggestive as that review is, we yet think that the main purport of *Aeternitas* has escaped the distinguished reviewer.

[2] London : Ernest Benn, Ltd., 1928.

[3] See also the author's *Janus and Vesta*, chap. IV.

laboratory of the world of space and time with peoples and civilisations. Ethics is thus " progressive conservatively, consolidating (its) positions, as it moves on ", just as (let us add) in the eternal individual self is conserved the unified system of experience, the fruit of all one's experiment throughout its successive incarnations.

" Physics," says Roth, " is the search, under the guidance of creative insight, for the permanent nature of substance. Ethics is the search, under the guidance of creative insight, for the permanent nature of man. What that creative insight is, and what its implications involve, is an inquiry for the science of ultimates called metaphysics." In this great experimental spirit, let man substitute, says Roth, for the Hobbesian dictum *homo homini lupus* the nobler speculation *homo homini deus*.[1]

If Roth seems at times to demand of a part what is only possible for every man as a whole—as at least we envisage man in our present assay—he cannot be fairly criticised for that, on the basis of a work as yet unpublished ; and we have found so much to confirm our own conclusions in his admirable thesis that we cannot but express our gratitude and esteem for his labours.

Our own assay,[2] it will be found, greatly extends his main thesis (doubtless in the view of many to a degree beyond the legitimate bounds of scientific speculation), in regarding metaphysics as the science, and education as the art, of the harmonious development of the whole man (character and personality) in a society of whole men, the former (metaphysics) culminating in cosmology (theology, in widest theoretical scope), the supreme predictive, let us say prophetic, science, and the latter (education) simultaneously culminating in cosmopoietics (religion, in widest practical scope), the supreme experimental art

[1] See Izoulet, *La Cité moderne* (Pages Choisies series), p. 364, for an interesting coincidence.

[2] Here and there we use this ancient form of " essay " to remind ourselves of its deeper significance as a critical testing of the permanent parts of man.

of man the microcosm, with nature, the environing macrocosm.[1]

(v) REVIVAL OF SPINOZISM

Now it is significant of the scientific spirit of the times that all the above philosophers[2] have been powerfully influenced by that great metaphysician who united hebraic learning (in its sense-permeated language), its ardent monotheistic faith evolved from its henotheistic predecessor, and its ideal of human solidarity, with the scientific spirit in the golden dawn of modern Occidental science (seventeenth century[3]), and whose star still rises in the philosophic heavens—the Spanish (or Portuguese) Jew, Baruch d'Espinoza, better known as Benedict Spinoza (1632–1677), esteemed by Renan (1823–1892) " the greatest modern Jew."

(vi) LANGUAGES AND METAPHYSICS

We have spoken above of the sense-permeated language of Hebrew. Upon this point consider the words of a master-linguist[4] in the Semitic group of languages :

[1] For the successive units, in the great environing hierarchy, from the mother's womb, the family with its domestic hearth, through the whole series of city, region, nation, race, continent, earth, and heavens, in and by which every man develops his character and extends his personality throughout all time and all space, see my *Janus and Vesta* and *A New Chapter in the Science of Government.* From the point of view of the " city," see also the magnificent study by Jean Izoulet, *La Cité moderne ou la Métaphysique de la Sociologie* (Pages Choisies series, 1930 : first published 1894) ; Albin Michel, Paris.

Subordinate to the above great environing hierarchy, yet vast in its educational value, is the occupational and other institutional hierarchy, interwoven with the first. See the same references.

Catholic theology for centuries past has recognised the metaphysical truth at the basis of the above vision of the destiny of man in its conception of " *the visible Church (of believers) as the body of Christ.*"

[2] McTaggart in a less obvious, yet profound, way.

[3] Galileo (1564–1642), Kepler (1571–1630), Harvey (1578–1657), Descartes (1596–1650), Boyle (1627–1691), Huyghens (1629–1695), Newton (1642–1727), Leibnitz (1646–1716)—these alone form a constellation of genius unequalled in scientific history, creating, as they did, epoch-making advances in the four cardinal natural sciences, mathematics, mechanics, biology, and sociology.

[4] Robertson Smith, Editor, *Encyclopædia Britannica*, 9th Edn., in his article, " Hebrew Language and Literature," p. 596, vol. XI.

"Almost every root expresses in its origin something that can be grasped by the senses, and the mechanism by which words are formed from the root is adapted to present sensible notions in a variety of *nuances* and in all possible embodiments and connexions, so that there are regular forms to express in a single word the intensity, the repetition, the production of the root idea—the place, the instrument, the time of its occurrence, and so forth. Thus the expression of intellectual ideas is necessarily metaphorical, almost every word being capable of a material sense or at least conveying the distinct suggestion of some sensible notion. For example, the names of passions depict their physiological expression: 'to confer honour' means also 'to make heavy,' and so on. The same concrete character, the same inadequacy to convey purely abstract thoughts without a substratum appealing to the senses, appears in the grammatical structure of the Semitic tongues, —for example, in the absence of the neuter gender, in the extreme paucity of particles, in the scanty provision for the subordination of propositions, which deprives the Semitic style of all involved periods and reduces it to a succession of short sentences linked by the simple copula *and*. The fundamental element of these languages is the noun, and in the fundamental type of sentence the predicate is a noun set down without any copula and therefore without distinction of past, present, or future time."

Reflection upon the above description throws considerable light upon the long story of the evolution of Semitic science and philosophy from medieval through renascence to modern periods.

Avicenna (Ibn Sina) (A.D. 980–1037), Averroës (Ibn Roshd) (A.D. 1126–1198), Spinoza (1632–1677), and, in modern times, Karl Marx (1818–1883), more recently still Alexander, Bergson, and Einstein, are but a few of many famous names illustrative of a strong impulse to lay the foundations of reality in categories of space and time (whereof time is prior), con-

ceived under a majestic, monistic[1] postulate or hypothesis, wherein the eternal dominates "past, present or future tense." This line of tradition is traceable at least as far back as Stoicism.

The Stoic way of life, in its genesis by Zeno, the Phœnician Cypriot (340 (?) –265 (?) B.C.), was predominantly Semitic in spirit, though fused with Hellenism under the noble and deliberate experiment[2] of creating a philosophic concordat between East and West, as one of the first-fruits of the partial realisation by Alexander, the Great Dreamer-and-Deedsman[3] (356–323 B.C.), of his far-reaching policy of a world-civilisation and a world-culture. Stoicism, indeed, flourished most in schools located in Semitic towns, or towns where Semites were numerous, though attaining its greatest influence in its final period amongst the practical statesmen and other leaders (with their concrete, Latin tongue), of the far-flung Empire of ancient Rome, for the varied needs of which Panætius (180–110 B.C.) had transformed it, with diplomatic genius, into a practical philosophy of universal culture. For the mass of humanity it was, however, still too abstract, and insufficiently sympathetic to common needs and natural imperfections.

> Parallel with the influence of the Semitic languages upon philosophers, and consequently also upon science, there goes, of course, the equal reciprocal influence of the philosophers, as conceptualising leaders, upon the language, and the mutual relations of each of these, again, with the whole geographical environment.

The influence of the ancestral language (Hebrew) upon the philosopher speaking an alien tongue (Greek) will inevitably remain stronger the more familiar he is as a scholar with his

[1] The Judaic conception of God is dynamic, ancient Egyptian statical.

[2] Not only in the wider sense wherein Roth (see p. 43) uses this word—a sense further extended in our essay—but in the narrower and commoner sense of a deliberately-conceived and consciously-undertaken plan.

[3] Compare Mary Butts, *The Macedonian* (Heinemann).

ancestral language, and become weaker where his acquaintance with it grows scant. After the Jewish dispersion from Palestine (the diaspora), the former conditions prevailed in the early period of Hellenistic Judaism, the latter in the later centuries during which lived Philo Judæus (abt. 20 B.C.–abt. A.D. 54), a period when Greek became the language of Judaism and Jews steadily lost touch with Hebrew. The authorities are agreed that, for such a master of Judaic law-and-custom and of its innate humanism, as was Philo, his acquaintance with Hebrew itself was surprisingly limited ; but Greek he wrote, and its philosophy grasped, as would a classic author—witness the famous old proverb : ἢ Πλάτων φιλωνίζει ἢ Φίλων πλατωνίζει (either Plato philonizes or Philo platonizes) : so much so that this greatest of Alexandrian philosophers has been called un-Jewish by unsympathetic critics of his own race. Philo was, indeed, the first great eclectic religious philosopher, the initiator of Neo-Platonism, that wonderful union, in order of influence, of Judaism, Platonism, and Pythagoreanism,[1] and of Stoicism in a minor degree.

Neo-Platonism culminated, with the customary mutual reactions of rival religious philosophies, on the one side, in the lofty *Enneads* of Plotinus,[2] its Coryphæus (A.D. 205–270), who accepts, as did Philo, the Pythagorean and Eastern doctrine of re-incarnation and even metempsychosis ; and, on the other, in the early theology of the Christian Church by the ardent labours of the wonderful succession of thinkers and saints in that community,—at their head St. Paul (A.D. –(?)–(?) 67), who deliberately fitted the primitive Christian

[1] In the historical evolution of Greek philosophy a distinct line has been traced through the series of elements, Dionysiac, Orphic, Pythagorean, and Platonic, ceasing, along this line, with Aristotle who rejected this long tradition.

[2] For an introduction to the *Enneads*, a masterpiece more famous in name than familiar in its substance, I was indebted about twenty years ago to *Select Works of Plotinus* (translation by Thomas Taylor, 1758–1835), edited by G. R. S. Mead (G. Bell & Sons, 1914), a scholar to whose massive labours in esoteric regions of culture I would here offer my tribute.

faith to embrace all the peoples and classes, and pre-eminently the slaves, of Roman civilisation.

St. Paul's rejection, in favour of a spiritual immortality, of that famous doctrine of re-incarnation, and of the ideal of a paradise upon earth[1] for a spiritual heaven unattainable here, had immense consequences upon the relations between the Orient and the Occident[2] that still endure.

Without desiring to press unduly the linguistic factor in so complex a branch of culture as philosophy, we may yet note, as further confirmatory evidence of the strength of Semitic linguistic influence, the contrasted story of Spinoza, some sixteen centuries later than Philo. Familiar with Hebrew, and writing his famous *Ethics* in Latin—a great language, but ill-fitted, despite the acute inventions of medieval schoolmen, to express adequately the subtleties and refinements of the idealising and æsthetic aspects of metaphysics—this illustrious metaphysician, Spinoza, manifests substantial kinship alike in his philosophy and in the conduct of his life (inner and outer twins in this unmatchably homogeneous man) with the early, pre-Philonic, Semitically-inspired Stoicism (recall, for instance—" virtue is its own reward "), undervalues Plato with his æsthetic appeal and Aristotle with his teleology, and (herein concurring with Aristotle but running counter to Plato) rejects re-incarnation and metempsychosis.

Spinoza's wonderful contribution to the perennial problem of the unification of thought and to the scientific interpretation of nature, conjoined with a study of Heracleitus[3] (fl. 500 B.C.) and an inversion of Hegelianism, culminating in economic and materialistic monism as a social religion with Karl Marx

[1] Though we must not forget the influence of Pythagoreanism upon the Essene discipline and therapeutic. See also Chap. IX.

[2] Where the context seemed to call for the more definite and expressive description I have tried to profit by the advice of that distinguished Orientalist, Sir Denison Ross, by substituting Orient and Occident for the vague and inexpressive East and West.

[3] Of whom the most thorough exponent was the brilliant and tragic socialist leader, Ferdinand Lassalle (1825–1864).

(1818–1883),—to whom, as to Darwin (1809–1882) in biology,[1] the competitive factors (in the growth of contemporary industrialised English society) were so patent while the still more potent co-operative factors of love and self-sacrifice throughout life were undervalued in their interpretation of evolution—such was the economico-metaphysical ancestry of Lenin, with his colossal effect upon Russia, and, through Russia, as challenge or stimulus, upon the world.[2] And here again we note the profound influence of language upon the thinker (Lenin, too, as with Alexander[3] based upon yet also transcending Aristotle by his cosmopolitan initiative, was the tenacious dreamer thoroughly preparing for the consequent drama) ; for his native Russian language manifests clearly in its ethos a strong communistic spirit.[4]

(vii) " HE SAW LIFE STEADILY AND SAW IT WHOLE " (MATTHEW ARNOLD OF GOETHE)

Continuing the intertwinement of Spinozism with the linguistic factor, let us pass for a moment to a man who saw

[1] Economist and biologist too long misleading each other (Sir Patrick Geddes on Evolution). In respect of production, his undervaluation of the *æsthetic* gravely affects the theory of Marx in *Das Kapital*: the same cause blinds him to the great and indispensable function of hierarchies alike in government and in society. A genius himself, he yet undervalues genius. See Books V and VI of the present essay.

[2] " This (Slavonic) influence is destined in all probability increasingly to rival that enjoyed by Greece and the Mediterranean peoples " (*Janus and Vesta*, p. 19, 1916).

This pre-revolution forecast was repeated, and amplified in broad outlines, in *A New Chapter in the Science of Government* (1919), wherein further forecasts are made upon the future orientation of civilisation based upon the author's philosophy.

[3] See Dr. W. W. Tarn's address on " Alexander the Great and the Unity of Mankind " (the Raleigh Lecture on History, founded by Lord Wakefield) to the British Academy, 10th May, 1933.

[4] As evidenced by a comparison of its functional use of *having* with that of *being*—two vital, conceptual foci in language. See also p. 130.

I am indebted to the polyglot, Edward Huybers (former *Times* Correspondent in Brussels) for an acquaintance with this richly-endowed language, so instructive and inspiring to the author, educated on its distant relatives, the Classics and Western European languages.

the myriad facets of life where Lenin gazed ever but on one side—the vast figure of Wolfgang von Goethe (1749–1832), whose works have been a constant source of refreshment and light to me for nearly forty years and whose character and personality reawaken vividly therein for all that love him.

To the Olympian fortitude of Spinoza the poet was drawn as an ardent youth of twenty-five (1774); and to the *Ethics* he betook himself repeatedly for solace, amid the perplexing and mighty European vicissitudes of his old age, from his sixty-third year till his death at eighty-three.

Painting our picture of reality with the crudely contrasted colours of the palette-brush, in Goethe we see the supreme incarnation of the subjective genius of the German language, instinctively in youth and deliberately in age, linking his spirit to Spinoza, that most objective of all metaphysicians, in order to win that serenity and objectivity of life unto which the lyrical artist, of all men, finds hardest to attain.

So does life ever seek its complement; and every man perpetually strive to become complete, yet never attains thereunto; for is it not written in the great book of destiny that in the everlasting pursuit of our completion is joy[1] and that here the part, for us, is greater than the whole?

(viii) LEIBNITZ

In sharp contrast to Spinoza himself, consider his younger contemporary, Gottfried Wilhelm Leibnitz (1646–1716), deeply influenced by the *Ethica*, yet proclaiming his own system, as indeed in essential respects it was, to be the antipodes to that of his predecessor, ardently admiring both Plato and Aristotle (the conciliation of whom was his youthful

[1] Compare *Spinoza's* saying in the *Ethica* that joy is the transition to a greater perfection (or to a less imperfection), and that sadness is the reverse process; and *Goethe's* own famous lines, spoken by the redemptive angels of the Everyman that is Faust:

"*Der immer strebend sich bemüht,*
Den konnen wir erlosen."

dream) whom Spinoza clearly undervalues : Leibnitz, the man most representative of her united philosophic and scientific genius that Germany has yet had[1] : the encyclopædic scholar *in excelsis*, receptive to all sources of knowledge in several languages, and transforming his stores into original, massive, world-interpreting themes.

Particularly interesting and valuable is it to observe that the function of the æsthetic was one of the vital elements in life whose apparent absence in Spinozism was expressly deplored by Leibnitz, himself a lifelong disciple of the great epic *Æneid* of Virgil (70–19 B.C.), the whole of which he could recite from memory even in old age.

Here, indeed, as we think, Leibnitz is justly critical of his great predecessor, who (rejecting the Aristotelian concept of teleology) fails to see the eternally fruitful artistic function of the creative imagination in every man, and in truth, in every being,—that element in the constitution of the whole man we have ventured later to name the *super-mechanical*.[2]

The philosophy of Leibnitz, as that of Spinoza, is further evidence of the invaluable stimulus ever given to metaphysical speculation by steady application of the obscure yet sublime faith in the grand macrocosm-microcosm analogy to the deepening interpretation of man, nature, and Deity, as human experience itself provides enriched and accumulated details thereof. Perhaps the most fruitful quality of this faith is the unlimited variety and power it manifests in response to the unique and particular genius of every man who trusts it—

[1] We cannot say *produced*: for the father of Leibnitz was of Polono-Sorb origin—an element which would strengthen his Teutonic philosophical subjectivism—but his mother was German (Katherine, daughter of Professor Schmuck of Leipzig, birthplace of Leibnitz); and, the father dying when the boy was but six, this "*femme de mérite*" (Jaucourt—see Index) exercised great and beneficial influence upon her son and procured for him a thorough (German) education. Mr. R. F. Young, in his admirable researches embodied in *Comenius in England* (Oxford University Press, 1932), describes in detail the great influence exerted by that illustrious Educationist on the encyclopædic and scientific schemes of Leibnitz.

[2] Book VI.

a truth which is but another form of the equally ancient dictum of religious experience, that only by the experimental practice of faith in God can we come to know and love God. By such venturous assay alone can man enter into noble life abundant.

Leibnitz is himself a majestic exemplar of the fruitful action and reaction between a metaphysics based on the above analogy (" mon grand principe des choses naturelles ") and scientific experiment (the assay of speculation) and its resultant discoveries : while the defects of his work appear to have been largely due to an insufficiently thorough application of the grand analogy in question. Herein he is excelled by Spinoza, who realised both sides of the equation of the identity in difference and the diversity in unity of body and of mind (each widely interpreted) ; whereas Leibnitz (true to his racially dominant subjectivism) illuminates the nature of body by reference to mind, but ventures not to explore the nature of mind by reference to body.[1]

This halt in exploration makes it impossible for him to provide a satisfactory interpretation of the critical phenomenon of death[2] amidst a world entirely consisting of animated beings ; though in his admirable principle of continuity lies implicit the startling paradox that, expert mathematician as he was and versed in French, he might have learned from the piercing spirit of Pascal (1623–1662)—the ultimate coincidence in nature of the infinitely large with the infinitely small[3]—a principle that, boldly applied, interprets death itself, traces character and personality to their utmost bounds in time and space, and unites the theories of pre-formation

[1] I am not unmindful of his epoch-making substitution of complex action for simple thought in the Cartesian postulate, *cogito ergo sum* ; and herein Leibnitz wins new favour with modern science and its " events " ; our assay embraces both aspects in a wider synthesis.

[2] See also Dr. Lesbax, *Le Problème du Mal* (p. 181), an able, original, strange, and challenging thesis. See also note on Zoroastrianism (Index).

[3] A crude and faint analogy is the modern conception of the vast energy constituting the electron.

and epi-genesis, as our vision of man in due course will attempt to show, so that though :

> " This was sometimes a paradox, but now the time gives it proof." [1]

But not by reason of his metaphysic,[2] lofty and profound as it is,—that majestical symphony of this dynamical universe as wholly formed of animated, self-acting monads, those unique spiritual beings (selves), impenetrable (" *windowless* "), eternal, perfection-seeking, each mirroring, in its own characteristic individuality and in the measure of perfection realised, the entire universe of hierarchical monads from the infinitesimal atoms at the primary extreme (with their chemical affinities), through minerals (with their added crystallisation, seeking their perfection of form [3]), plants (with their added nutrition and reproduction), animals (with their added senses and locomotion), through the highest subordinate monad, man, thinking,[4] sensing, moving, feeling, reproducing, and operating (crystallographically and chemically), up to the supreme co-ordinating Monad " the universal harmony " [5]

[1] Shakespeare, *Hamlet.*

[2] Founded, *in substance*, upon the atomic theory of Democritus (abt. 450 B.C.–abt. 370 B.C.), revived by Epicurus (?342 B.C.–270 B.C.), and poetised by Lucretius (99 B.C.–55(?) B.C.).

[3] Compare the statement attributed by Dr. Maud Royden (in an eloquent address, B.B.C. Sunday, 19th March, 1933, " God and the World of Art "), to an eminent modern scientist (Sir William Bragg) to the effect that the process of crystallisation impressed the observer with a feeling that the crystals were creating beauty.

[4] The omission of feeling, as a cardinal element and not merely derivative from ideas, is characteristic of Leibnitz and most of his contemporaries in philosophy—a tradition still prevalent.

[5] From experience of the great influence upon my life, inwardly and outwardly, of my own Christian name [Ben-chara, son of joy, uniting East (Hebraic and Arabic) with West (Hellenic), and thus plainly dedicating its bearer joyously to the spirit of their conciliation—a name invented to mark a mother's gratitude after a perilous pre-natal accident] I have little doubt that upon the philosophy (as in his " pre-established harmony " above) and the life (as in his aims of the union of Christianity) of Leibnitz, his Christian name, Gott-fried (God's peace), had also great influence. Likewise (to name three others only)

at the ultimate extreme, the infinite Deity, sustaining concord throughout the monads, in appearance chrono-logically, and so " pre-established," in reality logically, and thus eternally—each developing in this universe wherein space and time are but phenomena, yet phenomena so firmly founded that the perpetual activity of each monad (not excepting the activity in sleep itself) is the resultant of its own past, the creator of its own future—not for this metaphysic (wherefrom our assay has striven to reduce, extract, and re-incorporate the pure ore of truth), not on this ground do we cite here some faint image of this justly famous personality of Leibnitz, but for the witness he bears to the lofty mission of metaphysics in the regeneration of mankind, and for his noble striving to re-create harmony in Europe after the vast havoc and upheavals of the War of Thirty Years (1618–1648).

(ix) METAPHYSICS AND CHRISTIANITY

The effort of Leibnitz to unite the diverging branches of Christianity by a conciliating metaphysic is a matter of well-known history. Only in recent years, however, has there come to light an understanding of the vastness of his philosophic outlook and of his planetary policy. In view of our own main theme we would here draw attention to certain passages respecting Leibnitz in Izoulet's *Paris, Capitale des Religions ou la Mission d'Israël.*[1]

with Spinoza (Baruch, Apocryphal book of the Bible with its famous praise of wisdom, Latined by himself into Bene-dictus, blessed, and so to wisdom, bliss, eternity, and deity as ineffable One); with Descartes (René, Re-natus, re-birth of philosophy from medievalism); with Kant too (Immanuel, im-anu-el, with-us-God, sub-conscious begetter of " the transcendental unity of apperception " upon the Leibnitzian ' apperception,' itself inherent in the latter's brief, seminal addition to the dogma of Locke : " There is nothing in the intellect but what was previously in the senses "—*except the intellect itself* (nisi intellectus ipse), said Leibnitz). To attempt to penetrate further into these obscure regions of life without additional facts would soon lead us into impenetrable darkness.

[1] Nouvelle Edition, 1927, Albin Michel.

(x) WITHOUT METAPHYSIC, NO RELIGION

As the penetrating mind of Lenin, at the dawn of this twentieth century of the Christian era, with his new religion founded on a new metaphysic of economic, communistic materialism, so in the seventeenth century with equal penetration did Leibnitz realise the profoundly important truth : without metaphysic, no religion.[1]

> " Les Métaphysiques sont des Religions abstraites, inaccessibles aux foules.
>
> " Les Religions, au contraire, sont des Métaphysiques concrètes et vivantes, des Métaphysiques populaires, des Métaphysiques illustrées,—illustrées de légendes et de cérémonies, dont se repaissent les imaginations et les sensibilités des multitudes enivrées[2]." [3]

(xi) " THE CONFUCIUS OF THE OCCIDENT "

Referring to the work by Jean Baruzi (succeeding therein Foucher de Careil [4]) on " *Leibnitz et l'organisation religieuse de la terre*, d'après des documents inédits," Izoulet, " *The Confucius of the West* ",[5] late Professor of Social Philosophy at the Collège de France, adds these words, so illuminative upon the genius of Leibnitz :

> " . . . quel émerveillement que de découvrir dans les inédits de Hanovre, *la politique planétaire* de Leibnitz!

[1] Thus, all the historical religions have their indispensable metaphysics, dimly (even blindly, we may almost say, with well-founded confidence in their pioneers) as this is felt by the vast majority of their respective followers. The (so-called) primitive religions are no exception to this statement ; they, too, have their equally primitive indispensable metaphysic. (See also Book VI, chap. xlvii.) Cf. Bergson's recent work *Les deux Sources*, etc.

[2] Presumably in the sense of " *exaltées* " : the word " *enthousiastes* " would be preferable.

[3] Izoulet, *Paris, Capitale des Religions*, 1926, p. 177 (Albin Michel).

[4] *Œuvres de Leibniz.*

[5] See Izoulet, *La Cité moderne* (Pages Choisies series), edited by Emile Bocquillon (p. 11), 1930 (Albin Michel).

"Élargir et approfondir la Civilisation humaine, l'élargir à la largeur du Globe, et l'approfondir, si j'ose dire, à la profondeur de l'Univers, *à la double profondeur pascalienne des deux Infinis*, tel a été, d'un bout à l'autre de sa vie, l'immense rêve de Leibnitz, au service duquel il a voulu mettre toutes les forces de son temps, toutes les forces individuelles ou collectives, non seulement un *Louis XIV*, mais aussi un *Pierre le Grand*, et même la Compagnie de Jésus !" [1]

(xii) THE DOMINANT SUBJECTIVISM OF GERMAN PHILOSOPHY

Once more taking up our subsidiary theme of language and philosophy, in sharp contrast to the influence of the Semitic tongues, we find, as with Eckhart,[2] Boehme,[3] Leibnitz, so with Kant, Hegel, Fichte, Schopenhauer, and his Olympus-storming pupil, Nietzsche,—to name only the greatest of German philosophers—a dominant leaning to subjectivism [4] in the interpretation of reality in harmony with the unexcelled power of the German language for the expression of profound and subtle ideas—a quality that renders the German scholar incomparable interpreter of Hindu philosophy, as expressed in Sanscrit,[5] a sister-language likewise excelling in the vocabulary of ideas.

[1] *Paris, Capitale des Religions*, p. 199. Izoulet's own special design for developing such a Leibnitzian "planetary policy," is charged so abundantly with penetrating observations on statecraft as to repay serious study and reflection as much for its ripe wisdom as for the interesting details of the design itself. As coming from so eminent a social philosopher, and as the culminating achievement of a lifelong quest, this work (*Paris, Capitale des Religions*) somewhat abbreviated—and therewith we would couple his famous *La Cité moderne* (1894: substantially republished in Les Pages Choisies series, 1930, above mentioned) that has earned him the just title of *Le Confucius de l'Occident*—merits an English translation.

[2] 1260(?)–1328(?). [3] 1575–1624.

[4] A characteristic manifest not in metaphysics only, but equally striking in music, mathematics, and lyrical poetry,—four vital fields of culture, wherein the German race is second to none.

[5] My indebtedness must be stated here to the magnificent labours in this direction of the late Professor Paul Deussen—and in particular to his *Outline of the Vedanta System of Philosophy according to Shankara*, translation by J. H.

(xiii) EVERY MAN, " THE FIRST AND LAST OF HIS IDENTICAL KIND "

As a third type of philosophy, our own assay, with its affirmation of the supreme significance of the whole man, an indissoluble union of body, soul, and spirit, is a typical example of the racial English instinct and the racial language with the powerful emphasis on man, as (in Protagorean phrase) the measure of all things—therein not dissimilar to the ancient classical world as portrayed in the pages of Plutarch[1] (abt. A.D. 46–abt. A.D. 120). Montesquieu[2] (1689–1755) notes the like characteristic of the English race.

> " If I am asked what is the bias of Englishmen I am puzzled to answer. It is not war, nor birth, nor promotion, nor success with the fair, nor the sweets of court favour; rather they would that men be men."

Sociological research by a small international group is much needed on this whole theme. Yet, however deeply, in terms of race, language, and environment,[3] sociological science may explore the evolution of the philosopher as a being-determinatively-functioning-in-time, there ever remains the irreducible and unavoidable pre-supposition, the initial postulate, of all scientific explanation—every man (alike scientific expositor himself as well as the philosopher he explains) as a being-spontaneously-functioning-in-eternity, creative, inexplicable, " the first and last of his identical kind."

Woods and C. B. Runkle (New York: Grafton Press, 1906), *Elements of Metaphysics* (Macmillan, 1894), and *Allgemeine Geschichte der Philosophie, mit besonderer Berücksichtigung der Religionen.* I venture, however, to think that Deussen, too ardent a disciple of Schopenhauer, unduly exalts Shankara in comparison with the equally great Ramanuja; he even dates Shankara's birth, (*c*) A.D. 788, " exactly one thousand years before his spiritual kinsman Schopenhauer."

[1] To the lofty inspiration of whose *Lives* I owe a lifelong debt.

[2] Montesquieu, *Pensées diverses*; quoted by Henri de Tourville.

[3] The social environment, in the school of Emile Durkheim: *De la division du travail social* (1893); founded (1898) *L'Année sociologique*, with its wealth of illustrative detail: 1858–1917.

(xiv) MAN AS A MODEL (MICROCOSM) OF THE WORLD (MACROCOSM)

In this Spinozistic movement, (we will not say pantheistic,[1] though that is the general trend which characterises the recent renascence of modern English philosophy,) metaphysic finds new life in the inexhaustible fertility, (alike for positive advances as science and for fanciful aberrancies as superstition,) of the ancient macrocosmic-microcosmic doctrine of man and man's universe.

> That doctrine, perilous yet penetrating, dates back in the Near East and Europe at least to Pythagoras (abt. 582–after 507 B.C.), probably also to the legendary Orpheus, though the two Greek words appear to have been coined for the purpose of expressing the analogy between man and the world by the natural philosophers of the Sixteenth Century, Paracelsus (Theophrastus Bombastus von Hohenheim, 1491 (?)–1541), and that great speculative genius, Giordano Bruno (abt. 1548–1600), at their head, the latter, in all probability, profoundly influencing Spinoza and Leibnitz in the following century, by his famous *monas monadum* form of the macrocosm-microcosm doctrine, and by his conception of freedom and necessity.

As Professor Hallett justly remarks, after noting the indebtedness both of Spinoza and of Leibnitz (1646–1716) to the above doctrine :

> " It is difficult, indeed, to deal with the theory of knowledge without recourse to some such view, so that a considerable history of philosophy might well be written round its development[2] . . . "

Edouard Schuré[3] has admirably interpreted this ancient

[1] See Hallett's *Aeternitas*, chap. xii, " The Transcendent Real."

[2] *Aeternitas*, p. 107.

[3] *Les Prophètes de la Renaissance*, p. vii (Perrin et Cie, 1920). Here I would express my lively gratitude for the wide and rich horizons of Schuré in the above charming study, and still more in his *Les Grands Initiés* (Perrin et Cie, 1920).

doctrine in its two aspects, Hellenic and Hebraic respectively, in these words :

> " *L'unité constitutive de l'Univers et de l'homme* (*du macrocosme et du microcosme*), par leur structure intime et leurs correspondances profondes. Cette loi nous montre dans l'être humain un extrait merveilleux, un minuscule mais vivant miroir du Kosmos, le reflétant et le reproduisant, en grand et en petit, physiquement, moralement et spirituellement. Un rapport magnétique unit chaque partie de l'homme à la partie correspondante de notre monde planétaire et du Kosmos, si bien que tous trois ont partie liée tout en évoluant diversement et à part. Grâce à cette idée la sentence apollinienne du temple de Delphes : ' Connaissez-toi toi-même ' et la parole de la Genèse : ' Dieu créa l'homme à son image ' s'éclairent réciproquement et ouvrent dans les deux sens des perspectives immenses."

(XV) KANT

Now each of the above-enumerated English systems, by an entirely different method of approach (an independent, and thus invaluable, confirmation by authoritative experts, for which I am deeply grateful) reaches one or more of the leading principles in the present essay, including, happily, several of those which the scepticism of the modern European might otherwise have prompted him either to ignore or at most to throw upon them a passing smile of irony. What those principles are will be gathered as they proceed by readers familiar with the above authoritative systems.[1]

[1] In the development of a man's philosophy during some forty years it is quite impracticable to enumerate the works to which one is indebted ; but, in addition to the English treatises and in the same spirit I would mention the following seminal works by Continental contemporaries : Bergson, *L'évolution créatrice* and *Les deux sources de la morale et de la religion* ; Benedetto Croce, *Philosophie de la pratique, traduit de l'italien*, par Henri Buriot et le Dr. Jankelevitch ; Emile Lasbax, *Le problème du mal* (all four preceding works in the Bibliothèque de philosophie contemporaine, Félix Alcan, Paris) ; and Izoulet (" Le Confucius de l'occident "), late Professor of Social Philosophy in the Collège de France, *La Cité moderne*, Pages Choisies, by Emile Bocquillon (Paris : Albin Michel, 1930 : Pages Choisies series).

Bergson's conceptions of memory and personality and the function of genius, Croce's of will, and Izoulet's of the constitution of man (*quâ* natural) are, I think, substantially consistent (I do not say co-extensive) with the treatment of those vital themes in the present essay.

Croce's system itself may be briefly described (in Geddesian concepts) as the æsthetic of dream, the ethic of deed, the logic of facts, and the economic of acts.

In respect of German philosophy (to the illustrious names of Leibnitz, Kant, Goethe and Schiller—these two, philosophers as well as great poets—Hegel, Schopenhauer and Nietzsche, with all students of philosophy, I am deeply indebted), the world-war broke the continuity of my long study of the modern important contributions of that great nation. Since then my acquaintance therewith has been sporadic and unsystematic; but I may say that, so far as I can judge, the *permanent* metaphysical ideals in *die Gestalt-theorie* (Wertheimer, Köhler, Koffka school) and in the Pure Phenomenology initiated by Husserl and developed by his followers Scheler, Heidegger and others, are embraced in the present system, the former in the textual interpretation of the spatio-temporal half of the frontispiece, and the latter in the interpretation of the spiritual half.

But to the former school I would submit consideration of the postulate-principles of scientific experience in chap. xxxviii, and to the latter the question as to whether my interpretative categories of the spirit are cardinal, that is to say, irreducible to simpler conceptions. In fine, are these the very *Ur-kategorien* they seek?

To both schools may perhaps be commended the attitude of their own illustrious predecessor, Immanuel Kant:

"Die Kritik der Vernunft zwingt die Philosophie zu einer tiefgehenden *Selbstbeschränkung*, und diese Selbstbeschrankung der philosophischen Erkenntniss ist der zweite Grundgedanke der kritischen Philosophie. Er schliesst jene Metaphysik als unmöglich aus, die auf eine Erfassung des Alls der Dinge abzielt (compare p. 9 of my essay). Diese Selbstbeschränkung wird in *Platons* Höhlengleichnis, in Kants Unterschiedung von Erscheinung und Ding an sich, in Fries' Lehre von den verschiedenen Weltansichten die gleich berechtig und aufeinander unzurückführbar nebeneinander stehen, ausgesprochen." (Dr. Julius Kraft, *Von Husserl zu Heidegger* (Leipzig: Hans Buske, 1932), p. 123.) And again quoting from Dr. Kraft: "Die Unmöglichkeit des Empirismus hat Husserl erneut nachgewiesen, die Unmöglichkeit des Intuitionismus steht gleichfalls fest. Beide Irrwege beruhen auf einem verfehlten *monistischen* Streben, das immer wieder dazu verleitet, empirische Probleme a priori und Probleme a priori a posteriori zu arbeiten" (p. 122).

Dr. Kraft's critique of the phenomenological philosophy is a skilful application of Husserls' own admirable dictum (appearing on the title-page: "Die gegenwärtige Lage der europaischen Wissenschaften nötigt zu radikalen Besinnungen").

(I am indebted to Mr. Alexander Farquharson, of the Institute of Sociology, for directing my attention to this thoughtful book, of which I have given a detailed notice in the *Sociological Review*, October, 1933.)

In what measure my own world-view conciliates and weaves into a work of genuine art the great and enduring, yet apparently mutually diverse, principles that characterise the above creative masterpieces of my countrymen, time alone can reveal.

But, following in this—not rashly, I trust—the example of the illustrious Kant (1724–1804) in the prophetic title he gave to his :[1] *Prolegomena zu einer jeden künftigen Metaphysik, die als Wissenschaft wird auftreten können*, (1783)—the treatise interpretative of his great *Kritik der reinen Vernunft* (1781)—on the solid basis of over twenty years' testing and application of it, I venture upon a similar forecast in respect of the system of categories in the frontispiece (an *apparatus metaphysicus*) ; but with this vital two-fold reserve, that its indispensability will be felt in every future metaphysic that is a scientifically-based work of art, until it has itself become fully interpreted, and thereafter subconsciously absorbed, into a world-language, thus fulfilling its final function as an engendering apparatus of culture. In further support of this forecast, I would point out that the present essay is in consonance with the great dictum of Kant that all natural research tends towards the form of a system of ends, and in its highest development would be a physico-theology.

(xvi) NATURE, INCHOATE : NOT A COSMOS, AS WITH SPINOZA

As touching the Spinozistic school of metaphysics, immense as is the ground of agreement with the present essay, still greater is the ground of difference. The agreement, as I think, is due to the faith we share, explicit or implicit, in the doctrine just mentioned—the analogy of the macrocosm and microcosm. Our difference, I must equally suppose, is due to the more thorough manner in which I venture to apply that multimillennially tested analogy to the patent facts of nature and of man, in the effort to give due weight to pain and

[1] Prolegomena to all future metaphysic presenting itself as science.

suffering and sorrow, as to pleasure and happiness and joy.[1]

There is a penetrating saying attributed by Izoulet[2] to Voltaire[3] that : *to dare half-thoughts only is to have half-life only.*[4] If to this maxim we join its complement : *to dare half-life only is to have half-thoughts only*, we have a pair of maxims that would seem peculiarly fitting for the philosopher.

Neither thinking nor living can lead to excess provided they advance step by step together in the great art of life, deliberate experiment continually enriching experience, and deliberated experience continually rectifying, enlarging, and ennobling experiment.[4]

[1] In recognising the imperfections in nature as well as in man we follow (what every philosophy must profoundly respect) the common sense of mankind as well as the guidance of the saints and the theologians, those hearts and intellects of the great religions of the world. St. Thomas Aquinas, saint and theologian in rare degree of union, interprets in masterly fashion this whole theme and its relation to belief in an absolute being, God (*Summa Theologiæ*, Book I, 1266).

[2] *Pages choisies de la Cité moderne*, p. 21 : " C'est ne vivre qu'à demi que de n'oser penser qu'à demi."

[3] 1694–1778.

[4] Spinoza and his philosophical master, Descartes, were both bachelors, though the latter had an illegitimate daughter. One misses, particularly in Spinoza, the philosophic fruit of that rich experiment and experience of family life—wife, child, and the social environment to which they give new life and from which they receive it in return : " the good life in a pleasant household, than which," said Virgil, " there is nothing better nor fairer in life."

For a man, such experiment and experience are indispensable and irreplaceable for the creation of a wholly satisfying philosophy ; to the woman, however, this does not apply, for, with her completer, more sympathetic grasp of life as a whole, though unmarried, she may yet become a veritable " mother-in-Israel," as repeated examples have shown.

If the philosophy of the schools is to come nearer to the heart of mankind, the abstract universals of the male thinker must be wedded to the concrete singulars of the woman, for thus alone can philosophy rise to the universal singular, that manifests its infinitude of concrete realities in all the multifold spheres of life.

A fruitful doctorate-thesis, in a newly-instituted degree open to husband and wife jointly, for a pair of married graduates in philosophy (let us say, the philosophy of life) would be to trace the effect of celibacy, marriage, and parenthood on the speculations of philosophers and the evolution of philosophy.

Man must therefore conceive himself and nature, as nature must conceive itself and man, as together neither cosmos nor chaos but an inchoate duality in unity and an inchoate unity in duality. This postulate of inchoateness, necessitated by the clamant facts of reality, demands its resolution and completion in any metaphysic that is to satisfy,

The research might be kept within the limits of practicability by selecting, say, five-and-twenty names of undoubtedly great historical influence, in mingled good and evil, and, for such degrees in our part of the globe, by confining them to the West and Near East. In the following list (selected mainly for illustration, yet also in gratitude for enlightenment, confirmation, or challenge, in my own system) rather less than half appear to have been married:

Pythagoras* (?) (abt. 582–after 507 B.C.), Socrates* (469–399 B.C.), Plato (427–347 B.C.), Aristotle* (384–322 B.C.), Epicurus ((?) 342–270 B.C.), Zeno, founder of Stoicism (342–270 B.C.), Philo Judæus* (?) (abt. 20 B.C.–abt. A.D. 54), St. Paul* (?) (A.D. ?–?67), St. Augustine (A.D. 354–430), Averroès* (ibn Roshd) (1126 ?–1198), St. Thomas Aquinas (? 1125–? 1274), Hobbes (1588–1679), Descartes (1596–1650), Pascal (1623–1662), Spinoza (1632–1677), Locke (1632–1704), Leibnitz (1646–1716), Rousseau* (1712–1778), Kant (1724–1804), Bentham (1748–1832), Hegel* (1770–1831), Schopenhauer (1788–1860), Comte* (1798–1857), Darwin* (1809–1882), Marx* (1818–1883). In the above list philosophers who were married (had legal wives) are marked with an asterisk.

With one exception, the absence of eminent women in the long history of philosophy is remarkable; not even in mathematics and music is it so conspicuous. The one exception known to me is Sophie Germain (1776–1831), honoured in her selection (in the philosophic group) by Comte as one of the 558 worthies of all ages and nations in his "positivist calendar" (see *The New Calendar of Great Men*, Macmillan & Co.). Her genius was encyclopædic including original work in mathematics (the theory of elastic surfaces, though with some help from Lagrange and Fourier). In her unfinished posthumous (1833) philosophical work, *Considérations générales sur l'état des sciences et des lettres aux différentes époques de leur culture*, influenced by Kant, she establishes the illuminating truth that the causal principle is necessary when we see the part only, but, when we view that part in the light of the whole of which it is a part, our irresistible demand for unity, order, and inter-relatedness is fully satisfied, and the search for the cause spontaneously disappears.

In this she recalls Spinoza; but her merit is greatly heightened by the fact that she establishes this truth, not in science and ethics only, but in the realm of art, a realm vastly more difficult for the scientist and the intellectual philosopher to interpret justly and accurately. Hence Sophie Germain, while recognising the limitations alike of intellect and imagination, does not, as do Descartes and Spinoza, and so many philosophers since their time, exalt the intellect at the expense of the imagination, for they have their equal and co-ordinate functions in the interpretation of the universe.

not the intellectual part of man alone, penetrating as that is, not the ethical part alone, sublime as that is, not the æsthetic part alone, magnificent as that is, not any one part alone as such in isolation from the others, but man in his entire constitution, natural and spiritual, inclusive of all these cardinal elements and transcending them into unity.

(xvii) WHAT IS THE WHOLE MAN COMPLETE ?

We are thus led to an enquiry into these questions :— *What is the constitution of man ?* and, *What is the whole man complete ?*

It is this two-fold riddle that Bradley implicitly seeks to solve in the essay already mentioned, " *What is the real Julius Cæsar ?* ", and his superb wrestling with that dark riddle inspired me with further patience to proceed on my own quest.

Such is the theme of the present essay, wherein the whole and the parts mutually interpret each other as befits every work of scientifically-grounded art, which we believe, after many experiments and failures, is the form best adapted to minimise the inevitable defects of any philosophy venturing to portray man and his universe.[1]

(xviii) THE INFINITE PERSONALITY OF EVERY MAN

This enquiry into the constitution of man revealed to me the unexpectedly infinite scope and range of his individuality, the former as inner character, the latter as outer personality, together constituting an indivisible unity.

I thus came to realise the reasonableness of the theologians in attributing Personality to the Deity ; for I rise to the con-

[1] Herein concurring with Leibnitz (1646–1716), Herder (1744–1803), Schelling (1775–1854), and particularly with Schopenhauer (1788–1860). Here we would mention the inspiration derived, thirty years ago, from Herder's *Ideen zur Philosophie der Geschichte der Menschheit* (1784–1791). In the *Phædo* (though perhaps there alone ?) Plato himself envisages philosophy as *megiste mousike*.

ception of a Personal Deity, when I consider the infinite difference between myself at my lowest and myself at my highest,—a difference not of quantity alone but of quality also.

(xix) DEITY, ALIKE IMMANENT AND TRANSCENDENT

And here, entering into the presence of this majestic theme of divinity, I speak with a profound sense of unworthiness ; yet, after ranging, to the best of my ability, during some forty odd years from early manhood, over all the famous interpretations of the universe, I can do no more, and dare not do less, than re-affirm for myself the ancient faith in Deity, a faith that has stood and satisfied, the world over, the stern scientific test of age-long experiment by the highest of mankind and by the lowliest, in a way that no other postulate that claims to interpret the whole life of man can even distantly approach.

Our conception of nature and of man, of man in nature and of nature in man, as beings inchoate, has thus led us, in ultimate and irresistible satisfaction of man in his entire constitution, to the affirmation of faith in an Absolute Deity, as Deity immanent in both nature and man, proceeding[1] from

[1] In the sense of the famous Athanasian Creed of Christianity " Proceding " (to use the older spelling) implies " logically posterior," yet " not subsequent in time." Professor Hallett, in his *Aeternitas* (see his Index), has, I think, substantially the same meaning in mind in his phrase descriptive of the asymmetrical relation of *natura naturata* to *natura naturans*—" transformation without succession." His penetrating discussion of this subtle theme is illuminating. The same key applies to the proper interpretation of the development of man *as a whole* in harmony with the cardinal elements of his constitution enunciated in the system of categories in our frontispiece, such development *proceeding* from inner spiritual to outer spiritual and from outer natural to inner natural. The mystery of creator and created is at the root of all philosophy. The Kwa system of ancient China with its 64 symbols (arranged as a square, 8 × 8, representing Earth, and perhaps connected with Chinese chess) interpreted all things (man included) as permutations of the Yang (principle of activity) and the Yin (principle of passivity). This dualism found its resolution in the monism (*causa sui*) of Chu-tzŭ (Chu the sage, " Prince-in-the-Empire-of-Reason," A.D. 1017–1073) and his able follower Chu Hi or Chu Fu-tzŭ (Chu the philosopher, A.D. 1130–1200) during the famous Sung dynasty (A.D.

and yet co-equal with Deity as transcending both man and nature, yet not as two Deities, but one Deity, self-subsisting, changeless, indivisible, eternal Person.

(xx) DEITY AND SELVES

From this re-affirmation of the great and ancient faith of our forefathers and foremothers living still within us proceeds another like unto it : that every self is an eternal self in Deity, in Whom each self finds its reality.

Comprehending and integrating all selves, Deity transcends all selves.

The moment man recognises no being above man he begins to deify man and to forget his mortality.

Deity possesses the whole sentience of every self that yet abides itself unique.[1]

960–1278). In his treatise on *The immaterial principle* (*li*) and *primary matter* (*K'i*) : " While dwelling on the truth that the immaterial principle is inseparable from primary matter, Chu Hi yet recognises the higher dignity and priority in importance of the former, but finding no word to express precedence or superiority (i.e., priority in rank) to anteriority (i.e. priority in time), he says :

'. . . And it appears to be impossible to distinguish the priority or subsequence. If you insist on it, the immaterial principle is first, but you cannot say, to-day the immaterial principle is called into existence and to-morrow primary matter ; still there is a priority and a subsequence.

'Wherever the primary matter is collected, the immaterial principle is present ; but after all, the latter must be considered as the chief ; this is what is called the mysterious junction.' "

As with Spinoza, he finds the two inseparable yet distinct. [*The Monist*, January, 1896 : " Chinese Philosophy," by the Editor, the late Dr. Paul Carus (1852–1930 (?))]. The philosophy of the great Lao-tzŭ (Laocius), sixth century B.C., was free from dualism ; his famous and obscure Tao receives some illumination from Professor Hallett's interpretation of Eternity. Professor Soothill considers " the whole of the philosophy of the Sung period calls for examination and exposition at the hands of one who will clothe it in modern philosophical terminology " (*The Three Religions of China*, p. 174 : London, New York, Toronto, Hodder & Stoughton, 1913).

[1] Bradley approaches closely to the fuller conceptions of our own essay (the self as a synthesis of the finite and infinite, and selves as interpenetrant) in this passage (pp. 247–8, *Essays on Truth and Reality*) : " From the first, if we are to speak of transcendence, my finite centre is transcended. From the first and throughout it is one thing with the all-embracing Universe, and through

Deity is omnisentient,[1] omniscient, omnipotent.

Deity enjoys with every self and suffers with every self.

No self knows its own completed self : Deity alone knows every self in its wholeness and its completeness.

Every self apprehends Deity : no self comprehends Deity.

Every self is both finite and infinite, and so is a being in-de-finite : Deity alone is infinite in infinite ways : Deity is the unique absolute Infinitude of infinitudes.

(xxi) " OMNIA EXEUNT IN MYSTERIUM "

The formal logical interpretation of these truths is beyond science,[2] though science is ever advancing along the path

the Universe it is indirectly one thing in varying degrees with all other centres. Nothing in the end therefore is simply private ; the most intimate feeling and the simplest experience of a pleasure or pain is experienced by the whole Universe. The idea of some inner recess or sunken depth from which the one Reality is or can be shut out, is the mere creation of false theory. It is a perversion of the truth, an important truth, that each centre has an experience which is never directly one with that of the other centres." In his profound work on *Plotinus* (vol. ii, p. 230), Dean Inge, commenting on the " finite centres " of Bradley as an error in conception, remarks : " The great difficulty how to account for individuation is lessened when we think of the individual focus as potentially all-embracing."

[1] Having ventured far, I am happy to find in Dr. Alfred E. Garvie's *The Christian Belief in God* these words (p. 452) : " God was thought of in ancient philosophy as above emotion. But the religious consciousness would feel itself robbed of a precious consolation, if denied the assurance that God feels for and with men, that there is sorrow for man's loss, and joy in man's recovery (Luke xv). Recognising that God in His eternal perfection must possess eternal blessedness ; yet that blessedness, even as its imperfect counterpart in man, need not exclude compassion and sympathy. Hence I have dared in a previous work to add to the three current descriptions of God's relation to the world (omnipresence, omnipotence, omniscience) the fourth of *omnipatience*, using the word patience in the wider sense of any kind of feeling. ' In the midst of the throne there is a Lamb as it had been slain ' (Rev. v. 6). We dare not exclude sacrifice from the fullness of the being of God, as it is the loftiest reach of the soul of man." (London, Hodder & Stoughton, 1933.)

[2] Compare : " For it is indubitable that our thoughts can lead us beyond every law of nature known to us, and that we are able to imagine relations which transcend the realms of physics." Again : " Not all statements eluding logical reasoning are scientifically valueless and such a short-sighted formalism

of clearer understanding. The infinite attributes of the absolutely infinite Being,[1] so famous in the speculation of Spinoza, whatever else it may signify in his system, does assuredly express the truth that man cannot comprehend Deity though he may apprehend [2] Deity.

With Archimides, the scientist in man may cry aloud :

" *Da mihi ubi consistam et terram loco movebo,*" [3]

but to him, the mystic in man whispers in reply :

" *Omnia exeunt in mysterium.*" [4]

(xxii) MODERN WORLD-OPINION

We have sketched the recent movement in the special field of metaphysics in its relation to our own views.

Turning now to the world at large, we find the trend of modern world-opinion to be bi-directional.

On the one hand, steadily and with assurance, it is deepening the foundations of the scientific comprehension laid down since the Renaissance, and particularly during the Nineteenth Century, of man as a natural creature determined by his environment, physical, organic, and social.

On the other hand, it is rising, if as yet with the somewhat timid and hesitating flight of the young bird testing the

chokes up the source at which men like Galileo, Kepler, Newton and many other great physicists have slaked their scientific thirst for knowledge. For all these men, consciously or unconsciously, science was a matter of faith, of unwavering faith in a rational scheme of the universe " (Professor Max Planck, " The Concept of Causality," *Proceedings of Physical Society*, 1st September, 1932, p. 539).

[1] Compare also the witty and acute observations of Santayana on this cardinal Spinozistic postulate in his Introduction (1910) to Spinoza's *Ethics and* " *De Intellectus Emendatione*," translated by A. Boyle (Everyman's Library).

[2] In the language of Solomon Maimon (1754–1800)—that acute thinker whom the illustrious Kant stated understood him best of all his critics—man can *fassen* but not *umfassen* the All.

[3] Give me footing and I will shift the earth (Archimides, supreme mathematician and scientific mechanic of classic antiquity ; abt. 287–212 B.C.) : symbolising the dominant spirit of the Occident.

[4] All ends in mystery : symbolising the dominant spirit of the Orient.

strength of its wings, towards a loftier apprehension of man as a spiritual creator re-determining, in increasing measure, his environment in its three cardinal realms above mentioned.

Alike determined and free (the creed of that great sage, Thomas Hardy, and of the plain citizen to boot), man is thus a being indeterminate, a creature and a creator in one. Alike finite and infinite,[1] man is a being indeterminate, a characteristic he necessarily shares with the individual elements forming his mechanical frame, as they with him ; and likewise with his organic elements.[2] The paradoxes of modern science find therein alike their origin and their interpretation.

With the primary object of suggesting lines of advance in cosmology to the younger readers of the West, with their unbiased powers and daring initiative, and perchance, too, as an olive branch to their youthful compeers, and not forgetting the elder seers, saints, and sages, in India and other Eastern lands, I may be permitted to point out the following facts :

Half a generation ago, in an earlier book, I ventured to forecast the future trend of physical science, including the concepts of relativity, of a contracting and expanding, finite physical universe, of the indeterminacy[3] of action in its unique individual selves (themselves ever receding units that yet are ever more accurate, precise, certain,

[1] Compare the eminent mathematician, Dr. Hermann Weyl: " We reject the thesis of the categorical finiteness of man . . . On the contrary, mind is freedom within the limitations of existence ; it is open towards the infinite " (*The Open World*, p. 84 (Yale University Press and Oxford University Press, 1932)). Professor Weyl traces the development of this view from the pre-Persian dionysiac-orphic period in Greece, and pre-eminently to the illustrious Cardinal *Nicolaus Cusanus* (1401–1464), theologian, philosopher, and mathematician, to whom we are ourselves much indebted.

[2] For the recognition of the principle in recent biology, see Dr. C. C. Hurst, *The Mechanism of Creative Evolution* (Cambridge University Press, 1932): " It may be that the principle of indeterminacy, so incomprehensible to us, is a universal principle behind and beyond our human conceptual laws of mechanistic determinism " (p. 340). Cf. the new logic of Lukasiewicz.

[3] Now famous, in its narrower and definitely kinematical form, as the Heisenberg principle. Respecting the limitation of this new method, see Index.

wide-ranging, and predictive), of the statistical and therefore approximate character of scientific natural "laws," and of man as "mathematician" endowed with genuinely creative power over that physical universe, if also a creature thereof.

As will be seen later, the view taken, though delimiting the scope of the principle of causality [1] to the heuristic, asymptotic method of the natural sciences (including physics), re-affirms the value of that principle the more definitely as indispensable to that method which considers all its objects and events (including the experimenter and his experiment) *quâ* finite and determined, and to which their creative spontaneity, infinite and spiritual, is irrelevant.

The view reached in this essay aims at the substantial conciliation of the two fundamental principles of modern physical science :

(*a*) "*An event is causally conditioned if it can be predicted with certainty.*"

(*b*) "*In not a single case is it possible to predict an event exactly.*"

The conciliation is based upon the macrocosm-microcosm postulate.

On this complex matter significant is the address by Professor Max Planck, the famous begetter of quantum physics, on *The Concept of Causality* (Guthrie Lecture, published in *The Proceedings of the Physical Society*, vol. 44, Part 5, No. 245, 1st September, 1932), from which (*a*) and (*b*) above are taken. The following remarks from the same address give support to the value of the analogy just mentioned between man and nature :

". . . the simple fact that up to a certain degree we are able to subject future natural events to our thoughts and to guide them at our will would remain a complete riddle, if it did not at least point to the existence of a certain harmony between the outer world and the human mind" . . . "the law of causality is neither right nor wrong,

[1] Compare Sophie Germain, p. 64, footnote.

it can be neither generally proved nor generally disproved. It is rather a heuristic principle, a sign-post (and to my mind the most valuable sign-post we possess) to guide us in the motley confusion of events and to show us the direction in which scientific research must advance in order to attain fruitful results." . . . "For science does not mean contemplative rest in possession of sure knowledge, it means untiring work and steadily advancing development."

Now these forecasts were deductions from a cosmological synthesis developed during the preceding five and twenty years.

(xxiii) SOUND PREDICTION ARGUES SOUND PHILOSOPHY

Further, the same book,[1] interpreting the world-situation in the light of the philosophical foundations therein formulated, suggested in 1916 the larger outlines of policy needed for social regeneration, and simultaneously attempted a forecast of the larger politico-economic movements and events that appeared to be inevitably forthcoming consequences of the great world-crisis, and of the historical movements and events preceding that crisis.

Of these further forecasts, many have already proved correct ; and, with an important exception,[2] so far, none, it is believed, has proved incorrect.

As this present essay is not directly concerned with such political and economic matters, it suffices here to add that the verification of forecasts in such widely varying fields of man's activity, as politics and economics on the one hand, and physical science on the other, provides, it is submitted,

[1] *Janus and Vesta.*

[2] It was considered probable that the vast, nationally conscripted forces in Europe would gradually give place to small voluntary, professional forces. The world, as a whole, has not so far moved in this direction: rather, indeed, in the opposite. Yet on the grounds I have advanced, I venture to adhere to my opinion. I have in mind not land forces only, but sea and air forces, and even future amphibious forces (see *Janus and Vesta*, pp. 264–7).

primâ facie evidence of the soundness of the philosophy upon which both were based.

(xxiv) FREEDOM AND DESTINY

One may well ask at this point : " If philosophy can so correctly anticipate events, wherein lies man's freedom of action ? " This same dilemma has naturally, if elusively, led many scientists into a denial of man's freedom, thus enthroning one element alone of man above the whole.

Profoundly analysed, the dilemma disappears. Without repeating the detailed analysis given in previous works, let me concentrate here on two observations.

The stronger a man's character, the more free he is ; yet also, the better we know a man's character, the more accurately can we predict his conduct in given circumstances.

Such is also the case with social groups, extending up to nations and the whole world of man.

Further, each age has a relation to two groups of cardinal categories of thought—an old, dissolving ethos by which it is so far subconsciously determined, and a new, evolving theos [1] which that age itself creates, and in the light of which it remoulds its destiny.

Philosophy has thus two main functions, indispensable and complementary. It studies the nature of the old ethos (with its dominant categories of belief) and predicts its consequences in given circumstances ; and, with these inevitable consequences in view, it aids in the creation of a new ethos for the regeneration of the life of man, of nations, and of the race.

Each man, and each age of man, lives in a sphere of destiny, predetermined and inescapable ; yet also in a sphere of creative freedom wherein constructive statesmanship may reign.

[1] A happy misprint ! Is not the new Ethos the young " god " of the rising generation ?

(xxv)

Those to whom many of the considerations here presented are new, and perhaps difficult, are invited to accord them the same hospitality a good gardener offers to new seeds and shoots. Give them due time to swell and root in the dark soil, to burgeon, blossom, and fruit. Not a mere fanciful analogy is this between gardening and study. [1] If our philosophy is sound, then we shall see that every thought is a true seed, with its physical and biological aspects, the correlates of its psychic elements.

The dark [2] periods of this miracle of growth obtain alike for the garden's seed and for the mind's thoughts ; they are the testing times of gardener and student, more severe for the latter, as the greater miracle of growth is that of the thought in the mind, for here garden and gardener are one.

With the pardonable impatience of children, too often do we all either neglect the due cultivation of the soil, or dig up the young seed with its feeble roots and contemptuously fling it away as worthless.

Doubtless this vital sense, meaning, and significance of " thinking " and " thought " is implied in its evolutionary equivalents of " conceiving " and " concept."

In a theme so complex I venture in all modesty to offer this further advice in the spirit of a great mathematician—and that philosophy is a harder study than mathematics let the still greater Plato witness, forbidding entrance thereto to all ignorant of geometry,[3]—" backwards and forwards must

[1] That profound educationist Comenius originally gave the name *Seminarium Linguarum* (seed-plot of tongues) to his famous *Janua Linguarum* (1632). See R. F. Young, *Comenius in England*, pp. 26, 27 (Oxford University Press, 1932).

[2] Dark—to normal observation and consciousness ; yet, seen in deepening inlook through the unlimited series of perspectives constituting our experience, the seed, alike in garden and in brain, would doubtless manifest during its growth a glowing activity, thermo-electric and other. What a splendour of luminous constellations would the living human brain reveal during its highest creativity.

[3] So runs the legend : *Ben trovato, se non vero.*

you read," said Lagrange, "upheld by the faith that what took such vast labour to produce for your benefit will in the end repay your patient study."

Such advice may be fortified by other considerations. The written significance of a word depends upon the context, and can be relegated to a preliminary definition with only partial success. The essence of a definition is itself but a highly abbreviated context, and so is of mainly propædeutic value.

Further, the more comprehensive the subject-matter, the less power has a preliminary definition—a maxim sound even in mathematics, the most logical of sciences[1]—until, in the limit when (as in a system of philosophy) the subject-matter ventures upon an interpretation of *The All*, definitions are perilous if indispensable. In such spheres of mental activity, it is the system as a whole that defines the scope of its cardinal categories, and these in turn that give definition to the whole.[2]

In ultimate resort, it is only by experimentally living the doctrine, by testing it in our experience, that we first faintly apprehend its meaning, then perceive its sense, and finally comprehend its significance : the word at long last has become our flesh and blood : it is reincarnated.

[1] See the author's *A Study of Mathematical Education* (Oxford : Clarendon Press), 2nd Edn., 1922, pp. 416, 417 and 406.

[2] Compare : "If a system of thought may be regarded as a living organism it is as reasonable to explain it by what it develops into, as by what it develops out of" (Max Hunter Harrison, *Hindu Monism and Pluralism*, p. viii (Oxford University Press, 1932)).

CHAPTER IV

THE AIM OF THE ESSAY

THE aim of this essay is to present an analysis that is yet also synthetic of the constitution of man and of nature in terms of certain cardinal categories. It will suggest those elements of life that, in deep analysis, are in evidence in greater or lesser intensity and measure between the inconceivably small and the indefinitely large in every moment of the spatial and temporal existence of man.

In nature are three perpetual marvels, the magic of matter, the miracle of life, and the mystery of humanity. In every man these three marvels meet and unite. Our essay is an attempt to interpret these marvels.

Our proposed sequel has this further aim. On the basis of the assumed constitution of man, to construct such a hierarchy of values from these necessary elements as appears to offer a true interpretation of the dominant characters of the respective periods in the wonderful life-cycles of man from birth to death, from embryo to corpse, within whose constitutional framework each man may develop the special potentialities of his own unique genius to the perfection that is bliss (the Sanscrit *anandam*), that spiritual quality of a harmonious [1] life that is immanent in, and also transcends, both the welcome delight of joy and happiness and pleasure, as also its unwelcome twin, the suffering of sorrow and misery and pain.

> " O, Pain, Love's mystery,
> Close next of kin
> To joy and heart's delight,
> Low Pleasure's opposite,

[1] Compare the " *harmonious man* " of Clement of Alexandria (A.D. 150 (?)–220 (?)).

Choice food of sanctity
And medicine of sin,
Angel, whom even they that will pursue
Pleasure with hell's whole gust
Find that they must
Perversely woo,
My lips, thy live coal touching, speak thee true."

(COVENTRY PATMORE).[1]

The realisation of this further aim has been found a task vastly harder even than that of the first.

An analysis of the permanent and universal elements of man's constitution is a problem upon which a large measure of agreement may haply be found.

A very different matter is it to evaluate those elements that appear to characterise specially the periods of a man's whole life, and to place them in such order as will be admitted valid for a being whose varieties of genius are so vast in number.

Thus it comes about that the writer deems it proper to hold back for still further meditation and testing his construction of a hierarchy of values appropriate to the life-cycle of man.

There remains a third problem for every man—for him, supreme. It is the problem of applying such a universal hierarchy of values to the conduct and development of his own unique, individual life amidst the embarrassingly rich choice of roads offered by the universe in and around him.

The philosopher may give him aid with the first problem —the constitution of man ; the theologian with the second— the problem of a hierarchy of values ; but the individual alone is in a position to find the solution of the third.

[1] *Selected Poems of Coventry Patmore*, edited with introduction by Derek Patmore, p. 70 (Chatto & Windus, 1931).

BOOK II

FACT AND MYTH

CHAPTER V

THE DOMINION OF DREAMS[1]

THERE is a new discovery of the world to be made, new voyages of Columbus, both within the soul of man himself and outwards and into great Mother Earth. New revelations of the one ever bring correspondingly great revelations of the other. The spirit of co-operation between East and West, and even between the cities and nations of the West themselves, has been hitherto in the main unconscious, indirect, and sporadic. The day is dawning when an era of deliberate, continuous, fully conscious, and world-wide co-operation will commence, intimate and penetrating, between all the great regions and religions of the world, with deepening and widening, enriching and uplifting of the heart of man as never perhaps before.

Faith will again arise in the prophet's dream, and world-wide dramas therefrom be created matching that dream in slow patience and ultimate majesty.

Science of late has learned humility; it has become the discovery of analogies, and now speaks only in parables.

It has been drily remarked that the same differential equations cover the most diversified phenomena. Our vaunted scientific explanations of the Universe are but working models of bounded and selected domains, thinking

[1] Reprinted (pp. 34–9), with slight variation, from *Janus and Vesta*, to which it was transferred from the original MS. of *Orpheus and Eurydice* (1911–1912). I shelter myself here and in two or three other places behind John Morley (1838–1923): "These borrowings from my former self, the reader will perhaps be willing to excuse, on the old Greek principle that a man may once say a thing as he would have it said, δὶς δὲ οὐκ ἐνδέχεται—he cannot say it twice" (*Burke*, p. v, Macmillan & Co., 1889).

machines to economise thought, conceptual shorthand *résumés* of a finite experience.

Reborn in wonder new, Man stands again confounded in the presence of the inscrutable ALL.

In this reawakened sense of sublime reverence, the spirit, despised a century long, of all great religion, philosophy and art—the mythopœic—is found anew to create at once the deepest and richest and highest of all forms of expression and inspiration of man's endless struggles,—endless, and so, in a pathetic sense, everlastingly futile, yet also increasingly and eternally fertile—to describe and interpret, and co-operate with, this marvellous Multiverse in the light of a Universe.

For fact and myth are ultimately indissoluble ; that the one can be many and the many one is the unique and supreme paradox of truth, ever irreducible by man.

But of his fate man grows increasing master, the more loyal his service to fact, the more faithful his reverence for myth.

For fact is the common-sense reflection in the soul of the plain man's experiment and experience with nature's nature and his own ; and myth is the spiritual dynamic that inspires every man at his highest, and the highest of all men—the true Lover—pioneer and protagonist, poet and artist, teacher and preacher, philosopher and statesman, priest and prophet, hero and saint.

From amongst the myriad moulds of reality, it is the evolving myth, enshrining the time-spirit of each successive civilisation, man's own corporate creation, that, unseen, unfelt, and omnipotent, ultimately offers to each individual his choice, prince or peasant, mother or maiden. But within that mould man is free to choose his own among its countless facets.

The two supreme perils of humanity are the Scylla of materialism, the dominance of mammon, and the Charybdis of superstition, the corruption of the spirit. To steer his barque of civilisation between these perils is the eternal task

and struggle of man—one of the ancient riddles of the sphinx.

By renunciation of the intoxicating passion to interpret and master the ALL, and by rigorous resolution to gradual mastery of expanding but finite fields of explanation and activity whose size it is in his power to restrain within a constantly growing communal synthesis—only thus can man, thinker and doer, contemplator and creator,[1] avoid the vain beating of his wings in too rare an atmosphere of reality.

For Man may drift aimlessly over the boundless ocean of existence.

Or, individually and in groups, Man may form large ideals whose realisation may change the fate of nations and the face of mother-earth.

Between these extreme poles of life, now baffled and beaten, now clear and victorious, Man in general oscillates.

Men and cities, nations and civilisations, may be fruitfully judged from this lofty standpoint of history.

As the movements of Man approach the blind drift of dust, his history becomes obscured into chaos. As his movements approach the majestic flow of a mighty river to the ocean, under the inscrutable impulse of grand and widely embraced ideals, his history becomes illumined into cosmos.

Not science nor art ; nor religion, nor philosophy ; nor statecraft nor priestcraft : family-craft nor folkcraft : not field nor fold nor fish nor forest craft : nor manual nor machine craft : nor any art or craft of man, creating his culture and satisfying his needs,[2] can exist long and fruitfully without the creation and pursuit of ideals and the construction of Eutopias[3]—the re-birth, in form fitting each nascent civilisation, of the great myth.

Is the world approaching a period when the present blind

[1] The four worlds in everyman (see p. 29, fn. 1, Book I).

[2] For the scientific basis of this statement of arts and crafts, see Chap. XLI.

[3] Not to be confused with Utopias. Eutopias are imaginative reconstructions of definite regions in the light of lofty ideals and are substantially realisable; Utopias are stimulating but imaginary creations, nowhere realisable.

drift of " sensate motes on the crumbling crust of the earth "[1] will evolve into an orderly and progressive development under the mighty sway of the prophetic spirit of ideals yet to be ?

Will Love reveal anew to the prophet the deep rhythms of all life—Love, the sublime force with which man cannot trifle, the electric flash that quickens or kills, the chemical affinities indissoluble yet volatile, the creative fires by which man's soul is warmed or scorched, the music of enchantment, the light of life ? [2]

* * * * *

Yea : some great Myth, the flaming reunion of the spiritual trinity of goodness, truth, and beauty with the temporal trinity of comradeship, health, and wealth, in one glorious vision of life and love abundant for each and all, is even now dawning, destined to mould the new world as its forerunners have the old.

Its inspiration will be the living spirit of these grand myths of the past, founded on the rock of the eternal needs of man's nature and spirit, alike human, organic, and material, alike super-material, super-organic, and super-human.[3] With their once flaming fires, now grown cold, by their once thrilling voices, now sunk to murmurs, in their once glorious light, now waxed dim, all things great have been by man created.

Wafted from the bosom of Eternity, myth, great or small, is already a seed in the mighty womb of this real world of space and time the moment it is felt ; grows big in that womb the moment it is thought ; leaps for joy the moment it is imagined ; is a lusty babe the moment it is willed ; a stripling ready to expand into a giant, the moment it is communicated to a fellow-soul in any concrete form or shape.

[1] A phrase borrowed from my old college friend at Edinburgh, the late William McDonald, poet and essayist (1862–1916).

[2] For the scientific basis of this analysis of the senses and energies involved in love, see Chap. L (The Inner Man).

[3] See Diagram 11, Chap. XLVIII.

And thus, by union of great and small, will the great myth arise for all.

World-wide will it be, compassing flashing East and sombre West ; rich to give scope to each talent, man's, woman's or child's ; inspiring to mould the full development of those talents in synergic[1] harmony with its own vast genius ; above all with sublime prophetic foresight of the spiritual yearnings of the centuries to come, bestowing on all the noble freedom that spiritual law, accepted with willing reverence, alone can bestow ; yet with a great sanity that realises that the birth of an ideal into reality comes only with travail and labour matching its majesty and its truth ; that its fruitful marriage with a still greater reality is a perennial sacrifice based on courage, with courage based on love ; and that its offspring, the child of its maturity, the father of the times that will come after, is fated to be the devourer of its parent, as itself was the devourer of its own. But the spirit of each dead past lives on.

" Man goeth forth to his work and to his labour—until the evening."

[1] Science flows into the life-blood of language.

CHAPTER VI

WHAT IS THE CHIEF END OF MAN?

(i) "KNOW THYSELF"

AN episode[1] of the *Tattiriya Upanishad*, a sacred book of Hinduism, interpreted by the modernist Pandit Bipin Chandra Pal, describes the search for the Supreme Being (Brahman) by Bhrigu, son of the sage Varuna, who bids him meditate patiently upon the sacred text :

> That from which all objects have come into being :
> That by which they continue to be :
> That towards which they continually move : [2]
> That into which they ultimately disappear :
> That is Brahman.
> That seek thou to know fully.

Thereupon meditating, Bhrigu seeks to discover Brahman first in matter, then in life, thereafter in mind, and lastly in the empirical self. All in vain! At length he reaches the belief, desired by Varuna, that in "bliss" (Sanskrit, Ánandam) is Brahman—the supreme joy that is the realisation of the Perfect Self transcendentally potential in every man.[3]

Some two thousand years later a great lonely philosopher in Europe, Spinoza, a man much suffering yet also "god-intoxicated," [4] rediscovered the same basal truth : that joy is

[1] See *Living Religions : a plea for the larger modernism*, by Victor Branford, pp. 20–26 (London : Le Play House Press ; Williams and Norgate, 1924).

[2] Cf. "Thou hast made us for Thyself, and our heart knows no rest till it rest in Thee" : St. Augustine, Numidian Bishop of Hippo (A.D. 354–430).

[3] Cf. "In every one is latent all he has been and all he will be" (YOLANDA).

[4] "ein Gott-betrunkener Mensch"—justly so named by Novalis (F. von Hardenberg, 1772–1801), the "Prophet of Romanticism."

not the reward of virtue but is verily virtue itself: that misery is not the penalty of vice, but is verily vice itself.

"*Tat tvam asi!*" "That thou art," runs the supreme utterance of Brahminism with sublime confidence. "Bliss, perfection, and thy godhead are all one."

This ideal of the personal "bliss" of the self let us unite with the complementary ideal of compassion (*compatior*): that spontaneous and vicarious sharing of the suffering of other selves by subtle sympathy in their development towards perfection. Therein is emphasised the truth that realisation of self is possible only by aid of the complementary virtue of the sacrifice (self, *made sacred*) of self for the bliss of others, a mark that is the highest characteristic of the Christian faith, and, also, when fully illuminated by their own profound wisdom, of Buddhism and Orphism.[1]

(ii) COSMIC IDEAL

Only by faith in such a union does the mind discover even the way of approach towards contentment along this line of experiment and experience. Then at long last dawns a consciousness, obscure yet intensely moving, of a grand cosmic ideal: that ideal alike at the heart of the traditional utterance of the Buddha, "Where a gnat suffers, there suffer I," and in the faith of St. Paul, "second founder of Christianity," that we are all members one of another, that the whole universe of living beings is knit in the sympathetic bonds of inter-dependence wherein "*the earnest expectation of the creature waiteth for the manifestation of the sons of God*," and that the consummation of ultimate bliss is unattainable by any single being until reached by all beings together—the individual in the cosmic, the cosmic in the individual.

[1] Well symbolised on "the singular gem in the Berlin Museum, engraved some time between the middle of the second and end of the fourth century A.D. . . . on which . . . below a figure on a cross there is the legend—however it is to be explained—ΟΡΦΕΟΣ ΒΑΚΚΙΚΟΣ." (*The Times Literary Supplement*, 9th October, 1930).

Illumined by this ideal, whose realisation will demand æons of time outpacing even the majestic age of the starry heavens, the dim dawn advances with certain if imperceptible stages into the brightening light of the day of life. With steadily increasing clearness at length man sees, and thrills at the sight, the balanced beauty of faith and humility in that whispered echo, by the whole man as potential saint, sage, and artist, of the great answer to the hoary riddle : What is the chief end of man ?—*The realisation of the kingdom of heaven within himself*—the last place where man seeks it.[1]

So constituted is this marvellous universe as to provide ample opportunity for the complete realisation of the indestructible yearnings of each and every being.[2]

[1] " The gods when making man realised the harm the foolish man might work if he discovered his divinity, they therefore hid it in the most secret place—even within man himself " (Ancient fable).

[2] Compare : " And is it probable that God should frame the hearts of all men so desirous of that which no man may obtain ? It is an axiom of nature that natural desire cannot utterly be frustrate " (Hooker (1554–1600), " greatest of English philosophical theologians," the *Laws of Ecclesiastical Polity*, Book I).

CHAPTER VII

THE AT-ONE-MENT OF THE WHOLE MAN COMPLETE

WHAT is this eternal bliss foreseen by saints, sages, and seers? What is it that gives rise to blissful experience? How far are we free to create and sustain it? What is its ultimate significance for life?

Have we not foretaste and prophetic images of such supreme joy in those moments we have all doubtless experienced, albeit too rarely, when we seem physically to tread not upon the solid ground, but on the elastic and uplifting air, when our whole being, embodied soul and ensouled body, is transfused with a spirit that is indefinable yet apprehensible, a sense of eternity in time, of omnipresence in space, a spirit of goodwill towards all and everything, a heightening and expansion, a deepening and enrichment of our own unique, individual self, yet of identity with the universe, a spirit, not of seeking interest and of yearning unfulfilled, but of attainment and serenity, the impassioned bride, "divine tranquillity"?

And the source of such experience? In our contemporary Western world many would find it in a sense of entire satisfaction with the momentary environment, united with a sudden and fleeting exaltation of our state of natural well-being, expressing itself through that massive cœnæsthetic sense of the whole of the bodily organs.

Some, particularly in the Eastern world, with the Hindu Pandit previously quoted or with Iqbal,[1] the Islamic poet of India, would find the source of that bliss in the momentary absorption into one's self of deity, the Perfect Personality.

[1] Now Sir Muhammad Iqbal, Rhodes Memorial Lecturer for 1935.

Others again would attribute it to a transcendence of our natural self into instantaneous union with our self that is divine.

We shall submit grounds for believing that it is at least all of these.

But however that may be, all, after ripe reflection upon their moments of sublimest experience, would perhaps agree that one essential condition of this highest, and presumably final form of sentiency, is an *at-one-ment* of all the rich and manifold elements of our life with that life as a whole, the harmony of the whole man complete.

Is then the chief end of man the whole man complete in an abiding state of bliss? Or is such an ideal forbidden by the Hobbesian dictum of psychological science: "*Idem semper sentire nihil sentire*"?

And if so, is bliss rather attainable by a rhythmical alternation between the restful contemplation that is harmony and the moving creativity that is melody? Or is the ideal to be the Aristotelian ἐνέργεια ἀκινησίας,[1] interpreted as the "Beatific Vision"?

Before venturing a reply, it is clearly desirable to know what is meant by "the whole man complete." This again implies an analysis of man, a description of his constitution, of his evolution from conception in the womb to his involution towards the dust of death, and of his resultant relation to the Universe.

[1] See F. C. S. Schiller, *Humanism*. Chap. XII, 1903.

CHAPTER VIII

THE FIELD OF MAN'S PERSONALITY

"WHERE[1] ART THOU?"—GENESIS III. 9

"For *all* is omnipresent
In the X-dimensional continuum of eternity
Is, was, and ever shall be:
It is apparent but not related
It is related but not apparent—
I sing of thy complexity
O *Heavenly Melody*
Whose song is ever to be re-created!"

(W. J. TURNER, *Pursuit of Psyche*).[2]

FOR the scientific description of man and the prediction of his destiny based thereupon, we postulate at the outset the conception of the field of man's personality as co-extensive with objective nature, though not co-incident therewith.

In using this descriptive term "field,"[3] we envisage the whole man complete as a being alike manifest to sense, intense, concentrated, and definite, in a finite body here and now, yet also infinite,—universal, omnipresent, and eternal, with an extended body diffused throughout all space[4] and time, materialised, incarnate, and latent in each and every unique point-instant, and thus also in varying concentration and intensity at different region-periods of space-time wherein each man

[1] The noble myth itself supplies the interpretation: "Whence art thou come and whither shalt thou go?" (See p. 247, Book V).

[2] Wishart and Company, 9 John St., Adelphi, London, 1931. Though suitable for our purpose, the above quotation is far from representative of the many beauties of this highly original and impressive poem.

[3] Compare the dictum of Meinong that all sense-objects are given in *fields*.

[4] Of Alexander the Great it was said: "*Quæ regio in terris vestri non plena laboris?*" If in less intensity, the same epitaph may be justly bestowed on every man.

manifests widely varying differences of potential energy, material, organic, and human.

These point-instants are the atomic instruments of man's sentiency-filled memories massed varyingly in the region-periods.

By this term " sentiency " we denote alike any and every kind of consciousness in the waking life from indefinitely small quantities (*unit quanta*) of experience at the one extreme (as in the life of the organic cells) to indefinitely large quantities at the other (as in the ecstasy of the whole finite body here and now), and also the like variety of what we may call the hyper-consciousness in the dream-world of each man.

Here, indeed, we postulate the conception of indefinitely varying and rhythmical elasticity of man's being, in its range from the revelation of life's evolution at its majesty to the involution of the finite body and its psyche (its corresponding empirical mentality) in the ashen dust of death, at once corporeal and psychic—man, now an inscrutable germ, enfolding the triune individuality of the magic of matter, the miracle of life, and the mystery of humanity ;—yet a germ within germ, *ad infinitum*, unapproachable by sense or instrument of sense, because truly infinitesimal and infinite at once, waxing and waning and ever immortally infused with man universal and man individual.

The main thesis of the nineteenth century was the interpretation of man on the theory of evolution. The forecast may be ventured upon that the main thesis in time to come will be the completion of the interpretation of man by the wider theory of man and nature co-eval, in periodical evolution and involution.

From the standpoint of natural science, in the words of Lucretius,

> " . . . res . . . non posse creari
> De nihilo, neque item genitas in nil revocari."

The natural intelligence of man begins and ends with the

above fact—that nothing comes from nothing and nothing comes to nothing,[1] the primordial form of the law of causality.

[1] Here Parmenides, Empedocles, and Democritus are at one with Lucretius in their respective sayings:

"ὡς αγένετον ἐὸν καί ἀνώλεθρον ἐστὶν,"
"ἐκ τοῦ γὰρ μὴ ἐόντος ἀμήχανον ἐστὶ γενέσθα,"
"μηδέν τ'ἐκ τοῦ μὴ ὄντος γίνεσθαι καὶ εἰς τὸ μὴ ὂν φθείρεσθαι."

CHAPTER IX

BIRTH AND DEATH

"Of all things the free man thinks least of death; his wisdom is a meditation, not of death, but of life." [1]

SPINOZA.

"Of all things the wise man meditates most on death." [2]

PLATO.

(i)

LET us pause awhile to contemplate the phenomena of birth and death.

As to man's birth, if we will but consider his growth to maturity, the scope and variety of the activities he manifests, the mighty instruments he fashions in religion, science, and art, in industry, commerce, and government, and in every department of life, we cannot but wonder afresh at the perpetually repeated miracle that all these things should emanate from a germ invisible to the naked eye. Is this not a miracle of miracles?

And does not a mystery of mysteries confront us in death—that the marvellous being who creates these prodigious effects should sink to all appearances into nothingness, behold but an

[1] Professor C. D. Broad states that this passage from Spinoza's *Ethics* ("Homo liber de nulla re minus quam de morte cogitat; et eius sapientia non mortis, sed vitæ meditatio est") is engraved on McTaggart's memorial brass in the ante-chapel of Trinity College, Cambridge. ("J. McTaggart Ellis McTaggart, 1866–1925." From the *Proceedings of the British Academy*, vol. xiii, London: Humphrey Milford, Amen House, E.C.). McTaggart's belief (shared with Plato) in re-incarnation reconciles the above apparently opposite opinions.

[2] Such meditation inspires much of the literary work of Thomas Mann. See also Chap. XXXIV (iii) and Index. His "*Kampf um Vollständigkeit*" he interpets as "*wahrscheinlich nichts anderes als Todesangst.*" In this surely lies a great truth; yet, for ourselves, we find this "*Todesangst*" transcended into serenity by faith in the Divine, a faith that gradually reveals a truth infinitely greater. See also p. 185, fn. 1.

insignificant part of the fruit of his lifelong labours, heart for ever stilled, eye and ear for ever closed, to love and light and music!

In attempting an approach to some interpretation of these most ancient of riddles we shall anticipate certain cardinal principles (later to be elaborated) respecting the constitution of man valid at all stages of his strange career from his unfolding (evolution)[1] during the process of birth to his infolding (involution)[1] during the complementary process of death. If our world-orientation of man is valid, the fruitfulness of research into either phenomenon equally illuminates the other.

Now, as we shall have grounds for believing, the constitution of man, as a natural being, embraces three elements, mechanical, organic, and human respectively.

Each of these elements contributes its special field of personality to the processes of life and death in the individual being. These fields of personality await their further scientific investigators ; for still rudimentary are the sciences alike of birth (genesiology) and of death (thanatology).

Further, to each bodily element and physiological action another of our principles postulates a corresponding psychic (mind, *quâ* natural) element and action. Here again emerge three types of psychological problems respecting the processes of birth and of death, whose darkness at present is truly portentous.

Such are the six main empirical problems of birth and death, as natural processes of spatio-temporal commencement and termination of the natural creature man.

There remain the transcendental problems of ontology (science of being), those arising from the spiritual aspects of the three cardinal natural sciences, æsthetic, logic, and ethic (respectively the supermaterial, superorganic, and super-

[1] For simplicity of exposition the terms " unfolding " and " infolding " are used in the early chapters ; yet " evolution " is more than " unfolding," and " involution " is more than infolding. (See Chap. XII.)

human correlatives of the mechanical, organic, and human natures of man). These are all three ultimately teleological in essence, and arise from the tripartite, creative will of man to beauty, truth, and goodness respectively,—of man no longer conceived in the necessities of his creaturehood but in the spontaneities of his creatorship.

(ii) POSTULATE OF RE-INCARNATION

The postulate of re-incarnation (re-birth and re-death) has been rejected in the West[1] and accepted in the East[2] by the main streams of philosophers.

In view of the inexhaustible profundities of "time"[3] and "space"[3] and of their relations with the concepts finite, infinite, and in-de-finite, bounded and boundless, their mutual dependence, independence, or interdependence, or again with illusion and reality, with becoming and being, with existence and essence, and in view of the consequential parallel profundities emerging from personality, it seems highly probable that a future metaphysic, embracing yet transcending any so far evolved, may reconcile and unite in an ampler synthesis the above at present opposing opinions of East and West upon the sense, meaning, and significance of birth and death.[4]

In the present essay, contemplating the self of everyman as alike empirical and transcendental, yet not as two selves but as one self, we accept the above postulate in the limited

[1] In modern centuries, at least.

[2] There are, of course, influential individual Europeans who have accepted the doctrine, e.g. Goethe, Schopenhauer, and Deussen in Germany, Leroux and Reynaud in France; and Gerhart Hauptmann, the famous dramatist of Germany, and, recently, McTaggart of Cambridge University in England—the last, highly significant facts.

[3] Through what a vast range moves our sentiency of time and space during the successive periods of life from infancy to age; and how immeasurably greater still that range must surely be if we include the very extremes of life at conception and decease.

[4] And simultaneously reconcile the Judaic *Paradise* with the Christian *Heaven* if the total environment of man is adequately realised. See p. 171.

form of re-birth and re-death of the empirical self as in harmony with our metaphysics of man *sub specie æternitatis* ; yet the rejection of that postulate would leave valid *sub specie temporis* both form and substance of our descriptive diagram[1] of man's constitution as exploratory organon for natural science and practical guide in the conduct of this life, here and now.

(iii) SIGNIFICANCE OF RE-INCARNATION

In weighing with impartiality the interpretative value of the postulate of re-incarnation there are many important considerations, alike for and against, that are too famous to require mention here ; but certain aspects thereof, implicit in the character of our own world-orientation, need emphasis.

Biologically, death is necessary for the re-juvenation of the senescent body, the objective form of the empirical self. Shrinking indefinitely inwards from its environment, yet also expanding indefinitely outwards into its environment, so that, ceasing as a phenomenon, it becomes imperceptible to scientific observation in both directions, the body, during the process of dying, gradually returns to its pristine state, a state of rudimentary *ἐνέργεια ἀκινησίας*,[2] ready to renew its evolutionary path with fresh vigour within a new embryo.

Psychically, death is necessary for the re-orientation of the senescent psyche, the subjective form of the empirical self. Only by leaving this finite world can a re-view of it as a whole be won. Recall to memory, reader, the strange and powerful impression received, and thus only receivable, the first time, deeming thyself for the moment a departed spirit, thou didst peer from the outer darkness into a room of light where moved or sat thy beloved ones, unconscious of thy rapt and ardent gaze.

By such sublime experience do we not realise that we must be external to a scene to grasp it as a whole, and that to value

[1] Frontispiece to essay, p. x.

[2] Our interpretation of this famous Aristotelian phrase is implied by the context above.

love and light and life we must be as if those things existed not for us.

As we venture to interpret later in our essay, the approach to holiness is by way of the path to wholeness, of which one indispensable condition is the periodical renewal of our contemplation of this world as a whole that death only provides ; for during birth that wholeness fast loses its magic unity and transforms into multiplicity by the very act and fact that we are ourselves now rapidly becoming part of this finite world of phenomena.

Periodical incarnation in that unsurpassable laboratory,[1] an animated body and its embodied psyche, thus provides amplest opportunity, by experiment and experience, for further removal of defects and for the growth of their corresponding qualities on the long pilgrimage towards perfection and consummate bliss of all selves in this world of phenomena—a perfection and bliss unique for each individual.

(iv) KARMA

Re-incarnation, in the doctrine of the deed (Karma), is the inevitable, natural consequence of all one's deeds, determining one's lot in a future existence in the world. Each virtuous deed raises the doer, each vicious deed lowers him, in the scale of being ; and thus at every rebirth the empirical self begins at that point of the scale finally reached in the previous life. Mine is the experiment for good or ill : mine is the experience of bliss or bale ; and æons may pass ere my spiritual illumination is full and clear upon the character of my deeds and their consequences.

(v) INSTINCTS OF LIFE AND DEATH

Birth is the evolution of the empirical self from an imperceptible state to its finite condition here and now ; death is the involution of the empirical self in the reverse direction.

[1] Cf. Daly King, *The Psychology of Consciousness*, p. 246.

Death gives its supreme value and significance to life ; every man as natural has thus the sublime instinct of death.

Life gives its supreme value and significance to death ; every man as natural has thus the sublime instinct of life.

(vi) " THE ANGEL OF RESURRECTION "

" Thou cam'st not to thy place by accident ;
It is the very place God meant for thee."

F. H. TRENCH.

Deepening our view and extending our concepts, we find involution and evolution ever in action together. At the moment of birth we begin to die : at the moment of death we begin to be born again. From the moment of our birth, our vitality then at its maximum, we spend our natural selves in activities that, dying into the vast silences of great nature yet therein abiding, are new elements of our complete personality, until at length the initial impetus is spent and death in turn ensues, itself to become a new birth as " the angel of his resurrection " within every man concentres from our extended personality an embryo fresh and vital.

Transcendent Conductor is Deity indwelling within every individual member of the universal orchestra and creating therewith the cosmic symphony from the silvern sounds of life and the golden silences of death.

CHAPTER X

THE DREAM-WORLD OF MAN

(i)

UPON the psychological problems involved in interpreting the processes of birth and death increasing illumination will be thrown by a study of dreams, alike in normal nightly sleep, during bouts of so-called insomnia, in surgical operations under anæsthetics, in experience with opium, in those rare cases of asphyxiation whether by drowning or in other ways where recovery takes place, in the meditative trance (dhyāna) of Yoga,[1] and, perhaps above all by well-established states of somnambulism and hypnotism.

[1] *Yoga* (literally "yoking") in the Bhagavadgītā, the "Song of the Lord," the New Testament of India, is the methodic discipline of mind and body to attain the enlightenment (buddhi) that makes union with the divine possible, and thus corresponds to a type of religion known in the West as mysticism. (See the "Song of the Lord," Bhagavadgītā, translation with introduction and notes by Dr. Edward J. Thomas: Wisdom of the East Series: 1st ed., 1931: London, John Murray.)

There appear to be few systematic explorations of Yoga as a curative method in Western literature; Dr. Franz Alexander in *The Medical Value of Psychoanalysis* (George Allen & Unwin, Ltd., 1932) cites (p. 185 fn.): "The therapeutic method of I. H. Schultz (Berlin) which he calls 'Autogener Training,' is essentially based on the Yogi method of extending the field of voluntary innervation through systematic training." Archaic processes (Dr. Alexander interprets), that had become automatic, again grow voluntary, as happens sometimes in hysterical mechanisms. He reminds us that the amœba, remaining a highly generalised organism, can create voluntarily limbs and mouths at need, thus utilising the same part of the organism for many purposes; while, higher up the scale, these parts grow specialised, relative fixtures, and so come to function automatically. In Yoga this ancestral power of the organism is educated to function again, within certain limits set by the duration of one life. (Cf. pp. 238, 313–317, 322, 330, 349–352 of our essay.)

It may here be added, in respect of the important researches in psychoanalysis of Freud, Jung, and Adler, with their respective schools of philosophy,

> The ancients called sleep the twin-brother of death. Death is indeed the profoundest sleep of the eternal self as sleep is lightest death. Nightly sleep is the normal condition of daily recuperation as death is the normal condition of periodical re-birth.

Here we have two interpenetrant worlds of sentiency, neither being completely independent of the other.

There is increasingly strong evidence to support the hypothesis that it is in deepest sleep and severest operations that the dream life in the world of dreams is at its intensest in living man.

This is contrary to the common belief that deepest sleep is free from dreams. But rare are those scientific observers who have practised the art of recalling dream-experiences so as to become expert in the dream-world of imagery.

Ceteris paribus, the lighter the sleep the easier upon waking to recall the dream : the deeper the sleep, the harder.

Guided by the principles of the conservation of energy and the continuity of life, themselves ultimate consequences of the conservation of the self, we must perforce accept the hypothesis that, during the mysterious processes of birth and death, this dream-life is wonderfully rich, intense, and comprehensive. During the process of gestation, the self, reincarnated in the embryo, remembers and utilises in the architecture of its structure, fashioned from the maternal food, the various forms it has traversed in previous lives. Similar, in reverse order, must move the dream-life of the ego during the process of dying.

Thus the expansion of the ordinary waking consciousness involves the contraction of the dream consciousness ; and vice versa.

that the reader acquainted with these will readily discover, as the present exposition of the constitution of man advances, which of their theoretical tenets of interpretation are consistent with the present essay and which are not.

Here we find the limits to the Hobbesian maxim : *Idem semper sentire, nihil sentire.*[1] The surest road into the dream-world of sleep is to utilise the preceding maxim ; for the waning sentiency of the waking life creates the waxing sentiency of the dream-life.

(ii) CONSCIOUSNESS—HYPER, SUB, AND SUPER

It is convenient to refer to this dream-world as the world of hyper-consciousness.[2] Simultaneously we reserve the term super-consciousness for the world of the spiritual,[3] later to be considered, and the term sub-consciousness for the initial and final stages of the ordinary waking consciousness whether in expansion or in contraction, while the word ecstasy is reserved for the supreme moments thereof.

From the above hypothesis we may reasonably draw the following corollaries : the more the living body expands during the process of birth, the larger becomes the consciousness and the smaller the hyper-consciousness of the self, while the more the living body contracts during the reverse process of death, the smaller becomes the consciousness of the self and the larger its hyper-consciousness.[4]

Wherefrom flows this that the nearer the self (or ego) to the ultimate stages of birth and of death, wherein it is unapproachable by the senses of an observer, or by any instrument of his senses, simultaneously the consciousness

[1] Or : *Sentire semper idem et nil sentire ad idem recidunt* (to feel always the same is to feel nothing).

[2] For this word, apologies to the purist—yet not too humble, for *hyper* and *super* are good classical twins. Our use of the word super-consciousness has much in common with the *super-existence* of Nicolai Hartmann, our famous German contemporary.

[3] All consciousness as becoming has form and as being is spirit ; also all hyper-consciousness as becoming has form and as being is spirit. Super-consciousness is the being alike of consciousness and of hyper-consciousness. The elaboration of this principle may be the theme of a fuller metaphysic of which the present essay is the basis.

[4] Did a similar principle inspire the famous saying of Heraclitus : " While we live our souls are dead in us, but when we die our souls are restored to life."

tends without finite limit to zero though never absolutely reaching zero, while the hyper-consciousness tends equally towards increase without limit save in so far as nature itself has its space-time limits.

The self or ego is thus at its two periodical boundaries, birth and death, alike concentrated in indefinitely small spatio-temporal extension and also expansively co-extensive with all space-time,—the extremes of small and great being ultimately coincident in the indefinite spirals of man's being in his successive re-appearances and disappearances in periodical birth and death.

In his short poem, "Uriel," Emerson,[1] brooding on Sádi's [2] dream of the Flame of God, anticipates alike the modern science of relativity and the modern philosophy of *The Absolute* in the famous words :

> "Line in nature is not found ;
> Unit and universe are round ;
> In vain produced, all rays return ;
> Evil will bless and ice will burn."

Surely a divinity doth bring the self into finite space and time, here and now, and thereafter doth lead it away : and shall not that same power bring it forth again in its due season.

In the course of æons of his development each man has within himself the kingdom of hell, of purgatory, and of paradise.

From the life of dreams man gives birth to the dream of life, and from the dream of life is fed the life of dreams.

[1] Emerson, Ralph Waldo (1803–1882).
[2] Sádi (Musli-ud-Din), (1184 (?)–1291 (?)).

CHAPTER XI

SLEEP AND INSOMNIA

(i) PHYSIOLOGICAL HYPNOSIS

A VIVID experience when in my fiftieth year is an interesting instance of the experimental application of the psychological principles above suggested. The accompanying observations may also be found useful by fellow sufferers from insomnia.

During this period of great mental and bodily strain I suffered from a severe bout of insomnia—severe enough, indeed, to bring one to that depressing point when one is fully convinced that the sweet balm of sleep has left one, never to return.[1] Desiring to avoid even occasional recourse to soporifics (perhaps an unreasonable prejudice), I recalled a method of inducing sleep, hitherto unnecessary, once described to me by a physiologist who had learned it during a visit to a Buddhist monastery in the Far East.

Briefly outlined, this method consists, while one rests in bed, in gradually and deliberately increasing the number of respirations per minute, normally well between ten and twenty, and therewith diminishing their depth, until the respirations become increasingly shallow and in rapidity approach that of high fever, where it may reach at times a hundred in a minute.

The rapidity thus deliberately induced by persistent tenacity of will is, indeed, comparable to that of a small mammal.

[1] Incredible as it is to those who have not undergone the experience. Man's capacity, alike for suffering and for joy, is inexhaustible. I recall, from some five and thirty years ago, a voyage producing so long and severe a bout of seasickness that first I feared to die and then feared I could not die.

The accumulative effect is a moderate measure of self-asphyxiation, with the ultimate sequel of sleep.

A little persevering practice is needed to master the technique, or the desired sleep is not obtained ; indeed, for a time unsuccessful attempts will generally increase temporarily one's wakefulness in place of diminishing it, so powerful is the habit of the respiratory apparatus to deepen the breathing after a period of air-deprivation in the lungs. It is, indeed, the existence of this powerful habit that renders the method safe ; for, as waking consciousness decreases and a stage of increasing somnolence comes on, the control of the conscious will rapidly diminishes and the normal breathing of sleep asserts its irresistible sway.

In one's experience of the trial in question, the effect of this deliberate method of depriving the lungs of their usual measure of air appears to prolong the normal period between wakefulness and the onset of sleep, during which the successive and continuous stages of semi-consciousness and somnolence are considerably extended.

During this intermediate period an illusion (for such, later reflection showed it to be) unprecedented in my own experience stole over me : I felt with an overwhelming conviction that I was gently being floated by some irresistible force up and down just above the bed—a sensation, in fact, of limited levitation. It was not at all the kind of feeling during true sleep itself that I have frequently had in the long course of my life, particularly in youth and early manhood, when one dreamed that, of one's own power and choice of direction, one was flying joyously [1] over town and country, so that the steeples of churches were far below one.

During this strange experience of limited levitation, if my memory is accurate in placing the observation in that interval, I can still recall saying to myself : " The old monks

[1] Compare in this and other respects the experiments and resultant observations recorded in Mrs. H. O. Arnold-Forster's thoughtful *Studies in Dreams* (London : Allen & Unwin, 1921).

were right after all : levitation is a fact : gravity *can* be suspended ! "

At length the delightful sensation ceased and I found myself suddenly in the world of dreams—no longer joyous but terrorised by a hideous nightmare.[1] In the midst of a profound darkness there appeared with magical visibility a vast, scaly dragon, its horrific jaws yawning to devour. A sword I held fell from my nerveless fingers : I was seized by black despair.

Once more the magical happened ! A veiled and stately female figure suddenly appeared beside me, and, bending low, restored the fallen weapon to my grasp.

With calm confidence I thrust it into the open jaws of the monster which thereupon vanished as suddenly as it had appeared.

Upon that I awoke, with a blessed conviction that the climax of this, my first experience of insomnia, had been safely surmounted : I had clearly slept once more.

For several succeeding years I continued subject to insomnia, on one occasion, equally severe ; but simpler methods proved ultimately efficacious.

The duration of the whole mingled experiment and experience was only about twenty minutes from the moment of looking at my watch at the outset to its termination (an unwise habit to contract in insomnia, this watching of the time instead of ignoring its passage under serene faith in the providential powers of recuperation inherent in this marvellous body of man).

On subsequent sober reflection upon this " levitation " feeling, I realised its rational explanation.

Waking consciousness embraces, in fact, not only the inner life of the mind but also sensations of the external

[1] Compare a similar dream—both due to fear—" between sleeping and waking," of Almanzor, Regent of Cordoba, Spain (A.D. 940(?)–1002). See (p. 530) Reinhart Dozy (1820–1883, famous Orientalist), *Spanish Islam* ; translation by F. G. Stokes (Chatto and Windus, 1913).

world. Amongst the instruments of these latter are the muscular and tactual senses. As the waking consciousness gradually diminishes, the function of these particular senses becomes gradually blunted to the contact of the skin and bed, and to the gently oscillating pressure of the bed upon the body counteracting its weight, so that the normal sensation of gravitation, at length beginning to disappear while semi-consciousness still obtains, produces obviously the illusion of weightlessness, and the body feels as if floating for a time up and down.

During normal conditions of the onset of sleep the united stage of somnolence and semi-consciousness is evidently too short to provide the physical and psychic conditions necessary to enjoy the above experience of levitation resulting from a deliberate, artificially-induced sleep. The powerful somnolence preceding natural sleep is meagre, or perhaps even absent, in such a method.[1]

The incident affords also an admirable example from which to analyse the constituent elements of the organon later suggested as descriptive of the constitution of man.

(ii) THE EGO WEAVES DREAMING-WARP AND WAKING-WEFT OF ITS WORLD-COCOON

A large part of our life is spent in sleep, so that it has been called the thief of time.[2] Truly by some it may be indulged in to excess, yet in its highest functions sleep provides the grand opportunity alike for recuperation of the body, for

[1] The above experiment clearly does not explain medieval traditions of levitation as reported to have been observed in one person by others. The evidence for such alleged phenomena has ever seemed to me trivial. In modern medicine, local application, to the skin, of the narcotic and poisonous drug belladonna (deadly night-shade), in the form of liniment, is used to relieve pain ; and it is said to produce the illusion of flying. The same drug was used in medieval witch-craft. The inference is obvious.

[2] Acknowledgment is here due for use of some passages in Section (ii) above from *The Wheel of Life and other Essays*, by Mrs. Benchara Branford, the author's wife.

the unharassed solution of perplexing problems, and for the ennoblement of our nature,[1] so indissolubly united in the subtlest elements of our life are the world of sleep and the world of wakefulness.

Sleep and wakefulness pass insensibly into each other. None is ever entirely awake or entirely asleep : in the vast world of the whole man, corporeal and psychic, there is ever some part luminously awake, and some part a-dreaming in sleep profound. Few are aware how much of their life is dreaming, recuperative sleep, and how little is expenditure of waking activity. Absolute sleeplessness does not exist ; though the persistence of apparent sleeplessness calls for appropriate attention.

During sleep the involuntary muscles and their psychic correlates are still at work, if at lower tension : the voluntary muscles greatly relax, and of these the tongue, that " unruly member," is the last to give due obediency to the will-to-rest : for to every slightest commotion or activity of conscious thought the tongue responds in its measure. The will-to-rest, alike of mind and of body, even when sleep long lingers or even refuses to come, is in itself, if fully and thoughtfully realised, a wonderful recuperative, and aids in diminishing, or even banishing, anxiety respecting sleeplessness. By force of habitual practice it generally induces deep sleep ; whereas the deliberate will-to-sleep, accompanied by doubt of sleep, though it also produces sleep, yet does it often so subtly, and so imperceptibly to the sufferer, that he firmly believes it non-existent ; but the trained observer knows otherwise.

He that can by persevering practice lying at full ease on his side with limbs and eyes[2] successively and deliberately

[1] The dream state may be increasingly brought within the control of a nobly-directed will, and, in turn, may thus nobly re-act upon waking life.

[2] Eye-balls, as in sleep, turned slightly upwards. Further, as, through the circulatory distribution of the deleterious lactic acid, fresh arms may help to recuperate tired legs in a runner, so may the sleep of any part of the body aid in recuperation of any other.

relaxed for nightly sleep (and even in the day) by gentle persistent will keep diverting thought from other fields and bring it back, steadily and continuously in the end, to concentration upon the tongue until that marvellous limb lies prone in the mouth in softest relaxation, finally responsive to nought but the thought of its own rest and thus assisting the will-to-rest to merge sub-consciously into the organic, deeper will-to-sleep, itself in turn to sink into somnolence—such a man, realising then by experimental trial that coy sleep is far more readily won by a wooer in serene indifference to her than to be commanded by an anxious suitor, leaves somnolently the waking world and passes into the world of dreams and sleep, and returns, if need be, again and yet again to sleep when it is interrupted or broken, for on the road between wakefulness and dreams the maxim of Hobbes has sway, "*idem semper sentire nihil sentire.*"[1]

[1] The persistence of one and the same feeling induces a feeling of nothing at all.

CHAPTER XII

UNITY AND MULTIPLICITY

" The softest dimple in a baby's smile
Springs from the whole of past eternity,
Taxed all the sum of things to bring it there."

HERE we may profitably consider somewhat further the phenomenon of conception in the embryonic union of the parental male and female cells. These cells are themselves intense and manifest centres of sentiency, ancestral and individual. The process of their embryonic union is a critical transformation of the field of personality of the unique individual[1] whose re-birth is now in question.

This individual is partly incased within these cells (*emboîtement*), and partly derives from the environment ; in technical language, re-birth is partly by pre-formation in the embryo and partly by epigenesis from the then and there environment. Thus, evolution is not merely unfolding ; nor, as we shall see later, is involution merely infolding.

Already innately represented, and so far existent (existing manifestly there and then) and re-incarnate in each parental cell, this individual, new, yet truly co-eval with its parents and their particular series of ancestors, suffers a momentous change in its vast field of personality and in its correlative psyche by the equally momentous event of parental sexual union, itself alike corporeal and psychic—and each of these with its spiritual value and significance.

[1] Every individual has the lifelong labour of developing into harmonious unity, alike with each other and with himself, the beings within his own being—an achievement ever far from fulfilment even by the greatest of saints, sages, or artists. Where the achievement is of an exceptionally low order there are manifested those cases known to the alienist as " multiple personalities."

It is passing from its state of dis-appearance (death) to a state of re-appearance (birth). Objectively observed, this momentous change in the self (the individual being) would appear to sufficiently subtle exploration as a transference of the lines of force (mechanical, electric, chemical, thermal, acoustic, optical, and magnetic) in the natural field of the self, resulting in a substantial re-formation of its physical configuration, co-extensive with space-time.

Subjectively contemplated, this same momentous change in the self is a corresponding transfiguration of the psychic correlates, the sum-total of the previous experience of the self.[1]

> Owing to the interpenetration of all realities, still more extensively viewing birth, we may say that " the whole world conspires to produce a new creation " [1] : and that " there is not one simple line of transmission, though there may be a dominant line." [2]

With the gradual manifestation of the specialised genes,[3] cells, tissues, and organs of the body there proceeds inevitably, with equal step, the gradual manifestation of their respective psyches.

The configuration of the body and the character of the psyche are, respectively, outer and inner aspects of the natural self.

During this passage from a state of " death " to a state of " life " (" birth "), in harmony with our primal postulates, we must conceive the self, with the substantial unity of its infinitesimal consciousness in its natural world and the contrasted multiplicity of its vast hyper-consciousness in its dream-world as becoming the self with multiplicity of increasing consciousness in its natural world and of increasing unity in its dream-world.

[1] The self natural, not the self spiritual.

[2] The two quotations are from A. N. Whitehead's *Religion in the Making*, 1927, p. 99.

[3] See p. 350, fn. 2.

Reverse is the order in the passage from " life " to " death."

In fine, from death to life the natural universe of the self becomes increasingly a natural multi-verse, and the hyper-conscious multi-verse becomes increasingly a universe.

> In the language of ancient theology, in birth, the " spirit," departing from its Creator, experiences the divisions and multiplicities of space-time ; in death, the " spirit," timeless and spaceless, returning to its Creator, recovers its primal unity.[1]

In this multi-verse of sentiency whether of death (dream-life) or birth (waking life), the duality in unity of subject and object is the most striking characteristic.

In thus re-concentring into a new finite body, here and now, the self attracts to that body a representative element of all its past experiences and experiments from the external environment of nature.

This splitting up of our being's ever fresh and pristine natural (empirical) universe into a natural multi-verse is the indispensable condition for renewal of development, for further experiment and experience with bliss or bale, in the finite, if vast, natural world of space-time here and now.

[1] For deepening interpretation, see Chap. XL (ix).

CHAPTER XIII

THE WILL TO AT-ONE-MENT

"There is no great and no small
To the Soul that maketh all:
And where it cometh, all things are;
And it cometh everywhere.

"I am owner of the sphere,
Of the seven stars and the solar year,
Of Cæsar's hand, and Plato's brain,
Of Lord Christ's heart, and Shakespeare's strain."

EMERSON.

THE measure in which each may win an increase of our immemorial store of bliss and avoid increasing our accumulated store of bale is as the measure in which all living beings can co-operate in fashioning each, its life, into a work of art, wherein the increasing variety, while adding to the richness of experience, is matched by the increasing measure of unity, the at-one-ment of all the elements of that life, the orchestration of life's music into contemplative harmony and creative melody.

The instinct and intuition (respective empirical and transcendental elements in the will complete) to create the one from the many, and thereby providing opportunity for the further creation of the many from the one, is an essential condition of life.

As lovers, above all, we know this; for here the two would fain in all things be one, yet remain each unique and distinct as the very basis of their mutual love—the great exemplar, given us by the saints of all times, of the union yet distinction of man and God.[1]

[1] "Sweet love were slain could difference be abolished" (*Greek poet*).

We may even affirm that the birth of every being is yet another of the infinite capacities of the universe to create a new world of unity in variety and variety in unity.

Such, too, is the unceasing quest of the philosopher in each of us from our very *conception* in our mother's womb. How sublime the thinker in Mother-Earth in whose vast womb all her children are conceived !

CHAPTER XIV

NULLUM SYSTEMA SINE CONTRADICTIONE

EVERY experienced teacher comes to realise the major intellectual faculty of his pupil as the synthetic, constructive, unifying : the minor, yet indispensable, analytic, decomposing, multiplying capacity as naturally subordinate to the other. To generalise is a higher capacity in the hierarchy than to specialise. To generalise is to rule : to specialise is to be ruled. Excess of either is evil : excess of specialism is the greater evil.

The German language has an excellent word for this instinct and intuition to unify—*Einheitstrieb* : it is at the root of the maintenance of sanity : it is a cardinal element in man's will.

We are then particularly concerned with the development and application of our *Einheitstrieb*, this will to create at-one-ment alike in the world without and in the world within, and also of each world to the other—not merely the adaptation of the subjective world within to the objective world without, but equally of the latter to the former—of the man to the environment and of the environment to the man. These are equally difficult and greatly necessary tasks for our education. Yet some, mistakenly as I think, would have us believe that the sole task of education is to adapt the pupil to the world without,—a pathetic belief, in view of that world as it now appears !

Now this will towards the at-one-ment of life perpetually applies itself to the unification of our manifold experiments and experiences, and thereby permits of new endeavours.

To this fact the great science of mathematics itself owes its existence, and its fertility.

As one single example, consider the function of the most fruitful discovery and most potent instrument in mathematical art—the simple bracket. I bracket 1 to 1, thus (1 + 1), and make a new unit which can be developed similarly. This device, at once simple and profound, is an inexhaustible machine for the manufacture of new varieties in unity and new unities in variety.

A cardinal element in the will of man is, then, this self-same bracketing power, ever creating into respective unities man's empirical experiences in sensation, intelligence, and feeling, and his spiritual experiments in idealising, ideation, and imagination,—and these unities again into higher unity.

Hence it is that mathematics is the basal science of all the sciences.

In affirming this we are at once embarked upon the age-long quest of the *Einheitstrieb* (will to unity of the whole) in respect to that part of our life termed knowledge, and familiar to all lovers of philosophy as the problem of the classification of the sciences, better named the classification of knowledges or knowledge.

An endless quest it has so far proved. Indeed, can the conclusion be avoided that an endless quest it must be from its inherent essence? For the idea of classification is itself an element of knowledge, so that we are seeking that to which surely no final and definite answer can be given—a comprehensive description of all existing knowledge in terms of a finite part of it.

Yet though the attempt is doomed to failure in the sense that it terminates ever in paradox, circular or re-entrant reasoning, and ultimate down-right contradiction, so strong is this impulsion to see everything illumined by a vision of the whole, the "Beatific Vision," and, in a profound and subtle way, so necessary is it to the happiness and harmony of man, that the history of thought for at least two thousand years records a continuous succession of pioneers of thought,

Oriental and Occidental, whose noble dream has been the solution of this very problem.

Its impulsion is, indeed, a necessity of human thought, and, wisely obeyed, leads inherently to growth of man's universe. We may repeat here a passage in the author's essay on government[1] :

> " Whatever element in man's universe of thought and things he starts with, *patient research brings him back to that particular element as a microcosm of the whole.* In this essay on ' government,' i.e. postulating its necessity (as we do) against the *anarchist* position, we therefore necessarily find an inherent contradiction which is symbolised by the unique position it assigns (temporarily) to the *banker* and (spiritually) to the *philosopher. We may name these functions as we please, but governmental science and art will always find them necessary.* In respect of the political maxim above mentioned we invite all political philosophers to reach so thorough an analysis of their system that the *inherent contradiction becomes once for all revealed : thereafter none remains a doctrinaire ;* and a sober estimate is reached of the *drastic limitations* of all theory."

Not with a view to further discussion, which we deem in the present state of man's development futile, but merely to exhibit the insoluble subtleties of such problems as this, we add a further consideration.

If man's knowledge is infinite and not finite, then by, say, a one-to-one correspondence (to use a mathematical conception) it is theoretically possible, by an infinite regress, to solve the above problem provided the representative system is itself infinite, though a part only of the whole. Now infinitude may manifest itself in various ways. The " self," in the ontological system here expounded, in its infinite divisibility[2] as microcosm of the macrocosm is a manifestation of infinitude, and, the self having direct knowledge of itself, it follows that the

[1] *A New Chapter in the Science of Government*, p. 45 fn.

[2] *Quâ* natural. As transcendental, the self is one, continuous, and indivisible.

knowledge of the self is infinite. The problem then is ultimately soluble.

As against this, our ontology also affirms that in ultimate analysis, there is not science : there are not even sciences : there is only the scientist ; and each scientist is a unique being, and so the problem is insoluble.

We shall not here pursue further this manifest paradox, but be content with the remark already made respecting arguments of a cosmical character.

Let us return to historical and factual considerations.

CHAPTER XV

UNIFICATION OF KNOWLEDGE THE CEMENT OF CIVILISATION

(i) THE WORLD-PROBLEM IS THE PROBLEM OF ART

THE history of culture and its manifestation in civilisation reveals the fact that the unification, the integration, the classification of knowledges, has more than an individual function to fulfil. If the degree of sanity and measure of the fullness and fruitfulness of development of the individual is dependent upon, may we not say is even in proportion to, the at-one-ment of his knowledge, no less true is this of a civilisation, of a race, of an age. Sanity is recognition of the part as part, the whole as whole ; insanity mistakes part for whole, or whole for part.[1]

Intimately connected as predisposing cause of the recent great war, amidst whose disintegrating effects we are all now living, is the high measure of failure to achieve an integration of thought amongst the Western nations in particular, and so, owing to their long dominance in leadership, also of the world in general from at least the Industrial Revolution onwards.

With individual, family, nation, or race, integrity of thought and integrity of life are inseparable.

This problem of the classification of knowledge rests ultimately upon the discovery of the cardinal categories of thinking. More adequately should we name it the problem of the discovery and the creation of the cardinal categories of man as a thinking being.

[1] Temporarily insane, however brief the period, be it a few seconds only, is every man while under the dominion of a part of himself, whatever be the passion that rides the steed of life.

For each civilisation on pain of dissolution must satisfy in substantial measure this basal condition of its survival. Wherever in any society the at-one-ment of its knowledge departs too greatly from a certain measure, history shows us the sure disruption of that society. The principles apply not only to human, but also to all biological societies. It is, profoundly interpreted, also regulative of the organic life of the individual. A house divided against itself cannot stand.

At this very period of time only by the greatest effort can our own Western civilisation escape such a catastrophe. Once again, though now over a vaster area alike of peoples and of space than ever in recorded history, East and West are in antipathy. Only by the increasing at-one-ment of the cardinal ideals of East and West can this dangerous antipathy, as the generations come and go, become transformed into life-giving co-operation.

The problem of the world is the problem of art—the creation of unity in variety and of variety in unity.

What then are to be the great, dominant categories of thought in the world Commonweal that it is open to mankind to develop ?

All of us may contribute to the task, whatever the gift of each individual may be ; and the fruitfulness of the contribution will surely be as the patience and modesty of the thinker.

With this problem of the cardinal categories of world-thinking I have been occupied at such times as were fit for meditation during some forty odd years. Needless to say, it is to the ardent and reverential study of the thinkers of the past, mainly Western yet by no means neglectful of the noble wisdom of the hoary East, and to the great contributions of contemporaries—many now gone—that what I can here offer for the sympathetic consideration of my fellow-beings owes its birth.

The terms employed I shall in general define by that

co-operation between the explicit and the implicit, between text and context, that is alike proper to and inevitable in a philosophical enquiry such as this.

I shall also try to bear in mind that a definition is a judgment; and, with C. R. Morris,[1] that :

> " The act of judging is ultimately a mysterious act."

and lastly, with Bradley, that, within due limits of applicability, where the All is the theme :

> " All judgment falls in the end under the head of subject and attribute in the sense that every judgment in the end asserts of a subject both diversity in unity and identity in difference—this subject being at once the ultimate and also a special reality." [2]

Summing up : it is submitted that, upon the measure of the satisfaction of the will to at-one-ment—the *Einheitstrieb*,—rests the measure of the welfare of the individual, of his particular civilisation, of the whole human race, of all living beings.

(ii) AT-ONE-MENT, THE CONTRARY OF UNIFORMITY

In thus interpreting the rôle of at-one-ment we would expressly deprecate a possible serious misconception.

Sharply to be distinguished from uniformity is our view of at-one-ment. In essential content the latter is diametrically opposed to the former. Uniformity implies the unity of homogeneous individuals ; at-one-ment the harmony of heterogeneous individuals ; and the richer the individualities, the greater the scope for happiness and the higher its quality, though also, inevitably, the greater the possibility of antagonism and tragedy.

[1] See *Idealistic Logic*, p. 305 (Macmillan, 1933).

[2] F. H. Bradley's fundamental doctrine : see his *Principles of Logic* (2nd ed., 1922, vol. i, p. 40, note 28).

Not the abstract universal in uniformity, but the concrete universal in at-one-ment is here the ideal.

Of all things, the most stale and unprofitable were a world of uniformly perfect beings.[1]

[1] After J. H. Shorthouse (1834–1903). See his classic romance *John Inglesant* (Macmillan & Co.).

BOOK III

PAN

CHAPTER XVI

REALITY AS FORM AND SPIRIT

(i) " FICTION IS A FORM IN SEARCH OF AN INTERPRETATION " [1]

IN a subject of this nature it is, I think, desirable to have a diagrammatic view of the whole man complete at the outset. Hence the frontispiece to this essay. The reader has thus before him an orderly arrangement of the principal terms and their relations, to which, as to a chart or pattern, he can refer from time to time during his study of the following interpretation in detail. The juxtaposition of these cardinal words as a pattern will thus aid in the elucidation of their significance ; and the reader will be in a favourable position for judging more adequately the nature of any differences attached respectively by himself and by the author to these particular words.

Let us begin with some interdependent postulates and their implied definitions. As with all sciences, and pre-

[1] See the admirable work on *Number, the Language of Science*, by Dr. Tobias Dantzig, p. 205 (George Allen & Unwin, 1930). In view of later passages in our essay (see Chaps. XX, XL, etc.), one may find in Chap. XI of the above work, " The anatomy of the infinite," an interesting account of the elements of the theory of transfinite numbers of Georg Cantor (1845–1918) ; and also of the sharp division of opinion, upon the validity and value of Cantor's courageous (in face of the hostile opinion, in 1831, of the great Gauss, 1777–1855) attempt to bring infinite aggregates into mathematical science, between the older school of *formalists* in its support and the younger school of *intuitionists* in opposition. Among the former are Hilbert (born 1862) in Germany, Bertrand Russell (born 1872, now Earl Russell) and Zermelo ; amongst the latter, supported too by the famous Kronecker (1823–1891) and Poincaré (1854–1911), are our younger contemporaries, Brouwer in Holland and Weyl (born 1885) in Germany—and, " to a certain extent," Borel (born 1871) in France. It may be added that the greatest leaps forward in mathematics have been in the bold use of experimental fictions, to which Vaihinger could point in support of his *Philosophie des Als Ob* (philosophy of the *As if*, or the fictional).

eminently with metaphysics, these are experimental fictions, based on experience with a view to further experimentation.

And first with our cardinal postulates :

Every thing real is spirit.
Every thing real has form.
Every thing real has form and is spirit.
Every thing real has its own unique,
hierarchical series of representative forms.

The Universal Whole is immanent in every thing real and transcends every thing real.
It is immanent in all spaces and in all times, and transcends all space and all time.

Form is that by which we distinguish things in time or space or both : spirit is that by which we identify things.

Form is herein used in its widest possible scope.

Form is commonly associated with the sense of external vision, with things seen outwardly. But images, things seen inwardly, have also form.

In the philosophy offered here for consideration, it is of essential importance that the wide scope of this word " form " should be realised and remembered. Omission of this duty on the part of readers, and particularly of the professional critics, will cause considerable misapprehension, and may lead, on this ground alone, even to a condemnatory judgment of the work.

On his side, the author confesses to the great difficulty he has had throughout in forming a final decision on the terminology. And, with the exceptions of the terms personality, sentiency, consciousness, environment, and will, no question of fitting terms has given him more labour than this of the proper word complementary to " spirit."

I would ask the reader to put to himself the same problem

thus. If we put *x* for the desired term in the postulate : " Every thing real is spirit and has *x*," what word would he (or she) select for *x* ?[1]

Unless the nature of this difficulty is sympathetically felt and justly appraised, the danger at once arises, whenever this word " form " is encountered—and that is unavoidably often for a technical term in so strategical a position—of a feeling creeping over the reader that, instead of an analysis of the rich life-blood of reality, he is being presented with a cold summary of a shadowy and ghost-filled world.[2]

To aid in the avoidance of such a consequence, we must bespeak patience for further illustrations of the scope of this word " form " in this its technical use.

Thus " form " embraces also the particular forms known as colours, and is not to be confined to its highly restricted use in such combinations as " form and colour," where " form " is merely equivalent to " shape."

What of the " form " of wind, say to the blind ? Here is certainly no question of colour : by the blind, wind is recognised by one or more of the aural, temperature, tactual, muscular, nasal, or even other senses.

Things hot or cold, again, are recognisable normally by the sense of temperature, whose nervous apparatus is a comparatively recent discovery of physiology.

[1] On many grounds, the terms *substance* and *pattern* would have been admirable substitutes for *spirit* and *form* respectively : the former has a long traditional usage (though far from uniform) and the latter has become fruitful and prominent in recent years in connection with the *Gestalt-theorie* of Köhler, Koffka, and others. The grounds which led me to prefer *spirit* and *form* were so numerous, that the reader will readily pardon me for not inflicting them upon his patience.

For an interesting discussion of the traditional categories of philosophy, see Dr. W. T. Stace : *The Theory of Knowledge and Existence* (Oxford, Clarendon Press, 1932). He handles " as a fairly representative list " being, existence, quality, unity and plurality, identity and diversity, substance and accident, possibility, causality, reality, and relation,—fourteen in all.

[2] Or, in the witty, though unfair, description of Bradley's great book *Appearance and Reality*,—" a ghostly ballet of bloodless categories."

In fine, so far as reality depends on the natural senses, " form " is to be associated with the experiences of any or all of the natural senses, whether " external " as the six respective senses of touch, smell, taste, temperature (external), hearing and sight, or the " internal " senses,—muscular, cœnæsthesia, (sense of the body as organism), the sense of the ego, temperature (internal), sense of orientation, (in the semi-circular canals). Doubtless future science will discover, further, electric and magnetic senses whose perceptions, perhaps, will be found to explain and thereby to bring within the domain of science many obscure and ambiguous phenomena such as " telepathy," and also to throw light upon the noümenal-phenomena of birth and death.

So much for the form of sense-experienced things.

" Form " also embraces things of the mind (things subjective) as well as things of our own body or of other bodies (things objective). And here we have not only images (of unlimited variety) as above stated, but feelings (of pleasure and pain[1]), intelligence, passions and emotions, ideals, ideas, desires, volitions, and so forth,—and these too, in their unique countless " forms," not one of which as real is exactly identical with any other.

On the line of interpretation by the special senses, in ultimate analysis, it would appear that all mental phenomena have a thermal aspect (form), the psychic correlative of the differences of temperature pervading the whole body up to its inmost, minutest structural elements, organic, molecular, atomic, and electro-magnetic.

[1] Nervous apparatus, apparently designed to warn the body of unhealthy functioning, has, it is claimed, recently been discovered. One awaits the sequel with deep interest. What, if confirmed, is the evolutionary interpretation; and what its relation to:

" The mark of rank in Nature
Is capacity for pain,
'Tis the anguish of the singer
Makes the sweetness of the strain."

An intensive and extensive observation of the isothermal system of the body, so far as that is practical, (accompanied by measurements of blood-pressure) co-ordinated with similar observations of the mental facts, in short a bio-psychical research into the individual would throw increasing light upon the constitution of the mind-body of man and other living beings.

A simple illustration of the intimate relationship between mental activities and bodily functions was afforded the author when it was found that, after an hour's intensely interesting discussion (20th December, 1925) his blood-pressure had risen from 142 mm. to 185 mm., an increase of about one-third—the bodily concomitant of the psychic activity.

The ultimate apathy is the cold of death. Temperature sense is, indeed, fused with ethical life. Dante punishes sinners with varying intensities of heat [1]; but the spirit of evil itself, the negation of everything, he places at the frozen centre of hell, (the ultimate if ideal zero of absolute temperature where no change of motion is possible)—great poetical truth and profound prophetic science in one.

(ii) SCIENCE COMPREHENDS : TRUTH APPREHENDS

All things are one to man until they manifest form.[2] The more minutely one investigates form, the more do things manifest differences. Form individualises and isolates : spirit universalises and unites. Science is knowledge of form : truth is knowledge of spirit. Science comprehends : truth apprehends. Truth is the infinite in knowledge, science the finite. Spirit is immanent in science and transcends it.

[1] The propriety of stating this point I owe to a discussion on Dante with my esteemed former official colleague, Mr. George Sampson, the distinguished *littérateur*. In the *Purgatorio* heat purifies.

[2] "Everything which is known is known through its form," said St. Thomas Aquinas. Of the same word (form) C. R. Morris truly says : "Certainly it is impossible to define it in terms of anything else" (p. 324 of work quoted on p. 121).

The word " form " has an ancient history, alike in common use and in philosophical language. " Form " is akin to the Sanskrit root " dhar " to hold, to " dharman " holding, (position or order[1]). What is it that " form " holds ? What is a " thing " ? Medieval European philosophy postulated two elements in every " thing " or " entity "—the " form " characterising it and the " matter " that it held, the Kantian *Ding an sich.* Yet this material substratum has ever eluded our senses and our search ; it recedes with baffling certainty upon each apparent advance towards its essential nature, as science vainly attempts to substitute for it one new entity after another.

(iii) HAVING AND BEING

Let the reader further note, in the cardinal postulates above laid down respecting form and spirit and reality, the fundamental positions also assigned to those two wonderfully pregnant verbs, " have " and " is " :

Every thing real *has* form and *is* spirit.[2]

In the ontology here offered, " matter," as real thing having a unique, infinite series of forms, is spirit.

And what of the " real " ?

(iv) SYMBOLIC DIAGRAM OF REALITY

The further elucidation of " reality " will occupy us in succeeding pages. For this purpose we shall utilise simple

[1] Cf. *Dharma* : spiritually, it is righteousness inwardly, and the performance of duty outwardly, including therein ritual laws and caste (class) rules ; for each caste has its own specific duty (*svadharma*). Compare and contrast " *dharma* " with our English " good form." (See Dr. E. J. Thomas, *The Song of the Lord, Bhagavadgītā* : John Murray, 1931 : pp. 12 and 13.)

[2] That acute mathematician and philosopher, A. A. Cournot (1801–1877), begins with *form* as a universal conception and key to the interpretation of reality, but is ultimately compelled to coin a new word for that knowledge we have called knowledge of *spirit,* namely, the word *transrationnel* (*Essai sur les fondements de nos connaissances et sur les caractères de la critique philosophique,* Paris, Hachette, 1851).

diagrams, of which the first and simplest may be now constructed.

Take a sheet of clean, tough,[1] rectangular paper ; fold it once : crease : unfold. Let this sheet symbolise reality. Let the left-half symbolise form and the right spirit. Thus

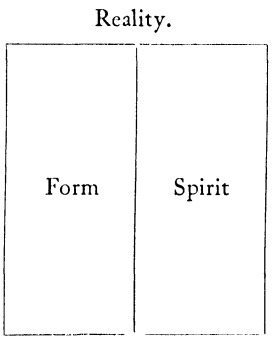


DIAGRAM I

we have Diagram I, symbolising reality, as the union of form and spirit.

Diagrams are useful, and even inevitable in one shape or another[2] : the very printed words themselves and their arrangement on a page are diagrams. Yet all diagrams have their manifold dangers. Thus spirit is visible only to the spiritual eye. Further, it is the indissoluble union of form and spirit that constitutes the reality of a thing ; yet in the diagram the two constituents are separate. The separation, in fact, symbolises not the union but the distinction of " form " and " spirit " : their union to constitute reality

[1] Why tough ? To stand continued use and creasing. By appropriate folding, creasing, and unfolding, such a sheet (of sufficient size—say, at least equal to two of these pages) may be readily sub-divided into two halves, four quarters, and so forth, as the diagrams in the text successively require, until ultimately the reader, if he so wishes, will thus have re-constructed and re-interpreted the frontispiece for himself, with, it is suggested, the minimum of trouble and the maximum of interest.

[2] Some may prefer to work with the more conventional type of diagram (Chap. L, No. 14) See, however, observation on that type in Chap. L (xi).

is symbolised by the inclusion of the two smaller rectangles in the whole.

Every diagram used in this work is a *memoria technica*, with its advantages and its corresponding disadvantages.

With this warning against the subtle and serious dangers of all diagrammatic symbolism we venture to proceed.

CHAPTER XVII

" Man is to himself the most marvellous object in nature."

PASCAL.

MAN AS HUMANISH, AND THE CONSERVATION OF ANTHROPOMORPHIC ENERGY

FROM our cardinal postulates, applied to every man as a thing real, we derive :

Every man is spirit and has his own unique, hierarchical series of representative forms.

What are the cardinal elements of form in each term of that series ? What is the constitution of man ? Can we analyse these cardinal elements into categories that are irreducible in their systematic inter-relations ?

As evolutionists we seek to discover and establish links, substantially continuous, between the highly complex form we know as human and the less complex forms of life,—animals, plants, protozoa, and so forth.

From the point of view of experience, of strict observation of existing living or fossil forms, this evolutionary type of scientific methodology has been increasingly successful.

From a strictly experimental point of view (by actual breeding, forwards or backwards in the links), the evidence is, naturally, vastly less substantial owing to the inherent difficulty of compressing time, and yet complete verification lies in such experiment alone.

But even from the observational side there has ever been found a residue[1] that is irreducible. In the last resort, even as complete evolutionists, we are compelled to postulate in the

[1] The "*residual phenomena*" so familiar to historians of science, whether anthropological, biological, or physical.

assumed origins that which we find in the final term ; the quest in fact is endless : man cannot satisfactorily explain the mystery of himself in terms of something other than himself.

This postulate of the ultimate scientific irreducibility of the human to any other form may be termed anthropomorphism. It affirms that, however minutely science may describe the evolutionary transformation of man, the origin of himself is an insoluble mystery to man. Man cannot give a scientific explanation of the mystery of man. . . *Omnis homo ex homine.*[1]

Further, Eastern philosophy—and now also at length a school of modern French thought—teaches us that the principle of involution is a necessary complement, for fullness of description, to the principle of evolution. Our opinion has been already expressed that the stages by which man normally infolds into himself as years advance and death approaches, (simultaneously with his continuous expansion of personality outwards), are a vast field for scientific exploration by observation and experiment, equalling the complementary field of his evolutionary embryology. The involution of life is as important as its evolution.

Here again Eastern thought (as in the *Vedanta*) has something to offer our Western science and philosophy. It teaches us that the theory of the descent of lower forms of life from man is as legitimate and valuable a hypothesis for the description and interpretation of the world as the theory of the ascent of man from lower forms of life. Into this idea, surprising in the main to Western science, it is not proposed here to enter further. The idea is as uncongenial to many as was once the conception of antipodes to our ancestors, or of non-Euclidian geometries to the last gener-

[1] We venture the opinion, alike on the experiential history of anthropology and on metaphysical grounds, that the geological antiquity of *homo sapiens* will be found further and further relegated to the " dark backward and abysm " of time,—and this *sine fine* ; and further that a similar regress will characterise the subterranean evidences of his culture and civilisation.

ation, and the Einsteinian re-orientation of mechanics, and the Planckian theory of quanta, to our contemporaries.

Summing up : let us call that which is irreducible in man to other categories of form and which characterises him as man by the name of *humanism*. There is a conservation of man specific, of anthropomorphic energy. Man is eternal and so in deepest sense is immortal, having neither beginning nor end. Whence it follows that, save as food for romance, the speculations of man as to what preceded man, or what shall follow man, are inherently self-annulling, and, so, meaningless to man. Thus, too, there is no sense, no meaning, no significance[1] in the idea that some terrestrial or celestial cataclysm may at some future time destroy the whole human race. Nature in man and man in nature are eternal correlatives, intervolved in ceaseless evolution and involution. Man in nature and nature in man, each is inherently a product of the activity of the other : and the reality of either is dependent upon that of the other.[2]

[1] The important distinctions between *sense*, and *meaning*, and *significance* have become tolerably well established since the epistemological publications of the late Vernon Lady Welby.

[2] See also fn. p. 137.

CHAPTER XVIII

MAN AS ORGANISM, AND THE CONSERVATION OF ORGANIC ENERGY

BUT man has not only a form specifically human : he has also an organic form : man exists also as an organism.

From a material standpoint the scientist seeks to reduce living forms (organisms) to mechanical forms, (mechanisms)—to subtle combinations of matter and energy, regarding life as a physical and chemical compound.

This type of scientific methodology is also inevitable, legitimate, and increasingly fascinating and fruitful.

But again the same story recurs as with the specifically human. At every stage of the historical research into the physico-chemical description and interpretation of life there is found a residue which is, at that stage, irreducible. When the next advance of material science has reduced this residue, there appears a new one, whose reduction in its turn gives rise to still another ; and so, without end, the process of reduction continues.

The divisibility of man as organism asserts its infinitude[1] again as it did as humanism.

Man, divinely gifted with creative potency, in union indissoluble with his natural environment as that environment itself with him, inevitably expands his universe with his own increase of scientific stature. The process of discovery has no finite limit from its own inherent essence. The organic form is thus established by experience and experiment as a second cardinal form in the constitution of man : *omne vivum ex vivo.*

Just as we termed *anthropomorphism* the ultimate postulate

[1] Compare Anaxagoras (500–428 B.C.) : In the small there is no smallest.

of the irreducibility of humanism[1] to organism, so may we denote by *biomorphism* the ultimate postulate of the irreducibility of organism to mechanism. This postulate also involves a principle of conservation of life, of *biomorphic* or (if we adopt the suggestion of Dr. Benjamin Moore) *biotic* energy. If man cannot explain the mystery of his humanity, neither can he explain the miracle of life.

[1] " Man's Place in Nature." Lecturing at the Royal Institution, 10th Feb., 1934, on human biology, the science of " Man's Place in Nature " (Huxleian, 1862), and adducing Dr. S. Zuckerman's *Functional Affinities of Man, Monkeys, and Apes*, and Professor Le Gros Clerk's *Man's Early Ancestors*, Professor Elliot Smith, F.R.S., described man as " a big-brained ape." In the light of our essay we interpret this description thus. (*a*) The more that man (veritable microcosm of all nature) *quâ* human organism (and so with that bias) investigates any living object whatsoever, the more similarities does he find therein between it and himself, *quâ* human organism ; but also, (*b*) the more that, *quâ* organic humanism (and so with this bias), he investigates the same object, the more dissimilarities does he find therein between it and himself *quâ* organic humanism. These truths, not contradictory but complementary, are in accord with the history of science viewed, not during one period only, but throughout all recorded periods ; and they are in full harmony with our essay. Man, the scientist, ever ultimately finds whatever he ardently seeks. But to conclude from (*a*), as Darwinians sometimes do, that the human is not a cardinal category in nature, (in the irreducible sense of our essay), were a repetition of the subtle fallacy made by nineteenth-century physicists (and even earlier)—but here the more serious, as the organic is more complex than the mechanical—the fallacy of ignoring the vital fact that the observer is himself an essential part, and a " disturbing " factor, of the field of his observation. Biology, indeed, needs a moderating principle equivalent to the Heisenberg principle in physics. Moreover, the microscopics of biology is even yet in its infancy. The character of such a fallacy in biology becomes, perhaps, more evident by patient reflection on this further consideration. If apes could investigate such a question as their " Place in Nature," and if, further, they could anatomise the object " man," and if, finally, they could draw the conclusion that an ape is " a small-brained man," then we should be prepared, not to dispense with the cardinal category of " the human," but to confer upon such able and modest animals the freedom of the kingdom of man.

CHAPTER XIX

MAN AS MECHANISM AND THE CONSERVATION OF MECHANICAL ENERGY

FURTHER, there remain those forms characterised by transformations with a constitution we know in modern times as mechanisms.

Man has not only a specifically human form, not only a specifically organic form, but also a mechanical form. Man exists as humanism and organism, but also as mechanism.

Here, finally, the scientist as mathematician seeks to reduce all such mechanical forms (whether material, electrical, chemical, thermal, acoustic, optical, or magnetic) to the pure forms of space-time. Herefrom have emerged the greatest advances in modern physical science. For in this final natural realm of space and time the creative will of man plays its marvellously varied games : finds its most fascinatingly fertile fields of research. It seeks no less than the reduction of all forms in nature, and man himself as the greatest wonder in nature, to spatio-temporal forms : humanisms to organisms, organisms to mechanisms, mechanisms to configurations of space-time.

Yet herein, above all natural realms of his research, man, the scientist, discovers the fathomless abysses in himself, the unscaleable heights, the impenetrable recesses of his own natural being.

Again there emerges an insoluble residue : man the mathematician cannot explain the magic of matter.

Let us denote by *hylomorphism* this ultimate scientific postulate of the irreducibility of mechanisms. It affirms that the scientific interpretation of the physical world will ever be increasingly successful in terms of spatio-temporal

forms, but will never terminate, requiring, in ultimate resort, at least one cardinal mechanical element in addition to space and time.

This again implies a further principle of conservation, let us say the conservation of mechanism ; as its more precise formulation in the present rapid march of science is not feasible owing to the increasingly complex, refined, and subtle manner wherein every successive school of scientific thinkers, in the main with profound sub-consciousness, absorbs into its experience, and incorporates in its science, categories from all preceding schools, even up to, aye and far beyond, the modes of interpretation of the ancient Hellenic philosophers and observers of nature.

Nor is there totally absent even from the most up-to-date science the millennial beliefs of the plain man in all of us. How many triumphs of science spring from an indestructible faith in " nature " that is but another form of our primitive ancestor's belief in the magic of matter. In truth, modern science is white magic. As the historian of the earth by patient observation reveals its successive geological strata, so is the historian[1] of science increasingly disclosing the successive ancestral strata in the grand structure of science.

[1] See, for instance, the masterly historical works of Dr. Singer.

CHAPTER XX

MAN AS MECHANISM, ORGANISM, AND HUMANISM IN SPACE-TIME UNITY

THERE are, then, at least three irreducible forms in every man, humanisms, organisms, and mechanisms, all existent in space and time.

Every living thing has at least an organic form and a mechanical form, both embraced in spatio-temporal unity—a duality in unity.

In man alone are these three cardinal forms, mechanical, organic, and human, embraced in unity—a unity that is also spatio-temporal. Man natural has then at least a three-foldness of form in spatio-temporal unity.

From a scientific standpoint man is a part of nature in at least a three-fold sense—nature human, nature organic, and nature mechanical.

Now mathematics is the systematised knowledge of form, and is the basal science of these three distinct spheres of natural knowledge, mechanical, organic, and human.

Conversely, all systematised knowledge of form is mathematical.

> Mathematics has two cardinal elements, temporal and spatial, and thus two fundamental species, arithmetic and geometry, which, in widest scope, are known as Universal Arithmetic and Universal Geometry, the respective sciences of time-delimitation and space-delimitation. Modern science is, on the one hand, continually creating new species by the union of these two fundamental genera ; and, on the other hand, continually attempting their ultimate separation towards a pure geometry free from arithmetical concepts and a pure arithmetic free from geometrical

concepts. These are both fruitful and fascinating fields of research ; for each is inexhaustible. Time as psyche of space, and space as body of time, are ultimately indissoluble.[1]

Our symbolic diagram, after due creasing of the rectangular sheet, is now this :

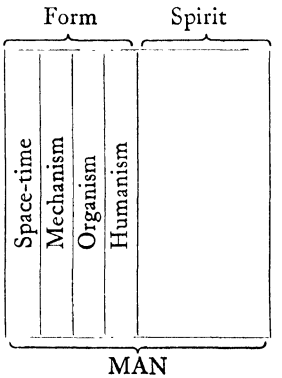


DIAGRAM 2

[1] See " Betrachtungen ueber mathematische Erziehung," von Benchara Branford ; Deutsche Bearbeitung von Dr. R. Schimmack und Dr. H. Weinreich : Teubner, 1913 : pp. 339–42. The pages in question are contained in the German translation only. Further, the point of view above stated is not invalidated, but rather confirmed, by the famous Dedekind-Cantor postulate—with the structure it supports—defining a new species, the *arithmetical* line, by substitution of the more precise arithmetical continuum for the old and vaguer linear continuum. Number being found inadequate to exhaust the significance of a thing so apparently simple as the geometrical line (of which every part implies every other part and ever so small a part possesses the same property as the whole), is it not clear that the interpretation of the universe as a whole is infinitely beyond the capacity of number, infinite within its proper domain as that capacity is ? [Cf. also F. H. Hallett's *Aeternitas, A Spinozistic Study*, p. 281, etc.]

Sir William Rowan Hamilton envisaged "*Algebra*" (branch of Universal Arithmetic) " *as the Science of Pure Time* " (1833 and 1835) ; here was the germinal conception of his Quaternions, cousin-german to, and absorbed in, the Theory of Matrices, itself a begetter of the Absolute Differential Calculus, mathematical instrument of the Relativity Theory of Einstein (born 1879).

CHAPTER XXI

MAN NATURAL WOVEN OF SPACE-TIME

" The bodies of men and women are the subtlest of all,
More beautiful than the constellations of stars
Than the orbs of the Sun and the Moon
Than the bodies of any flower, tree or animal,
And their voices more musical than any bird's call.
The human spirit is not a spirit behind fleshly bars
But is the chrysalis of its own cocoon
Like the imago of space in things geometrical."

Pursuit of Psyche.[1]

FOR mathematical science, or, more adequately expressed, to man as mathematician, the reduction of these three cardinal forms to spatio-temporal form is an insoluble yet ever fruitful problem.

For metaphysics, however, or, more adequately expressed, to man as metaphysician, the vista is otherwise. Here we encounter the next essential postulate of our philosophy. Man, individual and collective, divinely endowed as spiritual creator, weaves himself as natural creature, corporeal and psychic, into a union of these three cardinal forms, mechanical, organic, and human, out of ultimate point-instants, unique, individual forms, indefinite in number, of space and time.

In that mighty, indefinitely-renewed labour of re-creation, each self, as " the angel of its resurrection," depends not on an " infinite memory " alone, but upon " an infinite and electrical power of combination bringing together from the four winds what else were dust from dead men's bones into the unity of breathing life." [2] Thus each man, aye, and, through

[1] P. 41. By W. J. Turner (Wishart & Co., 1931).

[2] The quoted phrases are from De Quincey's description of a great philosopher.

man, each and every living thing, re-enters into concrete existence and is therein maintained.

Space and time, man creates not ; those incomprehensibles man receives from The Absolute, the Supreme Being, Spirit of all spirits, Personality of all personalities,[1] Form of all forms, Self of all selves. Yet within that divine constitution, those absolutely spatial and temporal conditions, whose revelation is a perpetual problem of mathematical science, man, individual and collective, is the maker of his own destiny, the creator of all possible forms of nature. In this sphere, nature is the great creation of man.

Man, as a natural creature, is thus woven of space and time. The synthesis, then, of the three cardinal categories, humanism, organism, and mechanism, is placed in the fourth column of Diagram 2 above,—man-natural as space-time.

We shall postulate later space as the body of time and time as the psyche of space.[2]

[1] Cf. Professor Max Scheler's ". . . *Wertrangordnung von Gott, der Person der Personen, zum* . . ."

[2] See Chap. XL., with footnote 3, p. 223.

CHAPTER XXII

NATURE: THE GREAT GOD PAN

SO far we have used the word "nature," with its adjectival "natural," without much attempt at precision, trusting to the immediate context for the scope of the word.

Nature is, however, one of the most ambiguous of words in its vast range of meaning.

At one extreme, Nature becomes absolutely deified [1] by those philosophers and scientists, and, following their guidance, by countless plain men, who have lost faith in the traditional forms of religion, yet, moved by an irresistible power within, would fain worship something they deem greater than themselves.

At the opposite extreme, "nature," at times for the same individuals [2] under the ethical law of irony, sinks to the rôle of a tempting or pitiless devil, the ever ready explanation and scape-goat, in every loosely ethical and falsely sentimental age, for our own individual sins and iniquities.

It is our duty now, in the sections succeeding, to set forth, with such capacity as we can and with such measure of clearness as is at this stage appropriate to the growing complexity of the work, the more precise scope which our philosophy allots to this word "nature." The full scope of the word as herein used, can not, of course, be grasped until the work is studied as a whole; so intimate is the relation we conceive between "nature" and "man," that the two terms continually elucidate each other, alike by expansion and by delimitation.

No system of philosophy, no form of religion, can win

[1] Compare Spinoza's *Deus sive Natura.*

[2] The followers, not the leaders.

enduring and wide recognition, can perform its highest services to the noble faculties of every man, if it neglects, still less if it contemns, any one of the great creative and moving words common to all languages throughout recorded ages.

In these great creative words man has incorporated and enshrined the noblest ideals, the most impassioned truths, the sublimest images of his race : oriented by their light, moved by their music and their might, melted by their glowing fervency, mankind has guided its destinies through the millennial ages when from the dreaming silences of his soul swelled up his song and speech.

To the divinities seated on those thrones all languages are one great hymn.

Amongst these gods of language not least is " Nature."

For a long time have I marvelled over the mystic potency of Nature and her inscrutable mingling with Man. Lord of Nature, servant of Nature, lover of Nature, torturer and tyrant, trembling slave and pitiful worm of her—such are a few of the inexhaustible rôles Man plays in her presence.

Not less marvellous she appears when I pass from Nature without to Nature within me. My hopes and fears, my doubts and certainties, my trusts and perplexities, my wonder and surprises, my pains and penalties for disobedience to her behests, the ecstasies and glories she manifests within me—what a myriad-faceted world of Natural forms is there !

To live with her in understanding sympathy I swim in the deep waters of the rhythmic language of the poets, and drink with ever-unslaked thirst of the hoary wisdom of the sages.

With purblind eyes I seek and find awhile the path of life trod by the saints ; thorny and repellent it ever looks to my obstinate pride : with slow and reluctant feet I tread that path and find therein to my ever-renewed surprise a healing balm : but again, and yet again and again, am I beguiled away from that narrow path into the broad highway of decay and death by the immortal lusts and vanities of the heart.

In rapt admiration I survey the enduring works of plastic art ; and am shaken from head to foot by the great waves of illuminant emotion that sweep through my body when the makers of music exercise their mighty art.

Penetrating interpreters are these all of the abysmal deeps of Nature, and worshippers at her shrine.

So all experience whispers, and whispers, and never ceases to whisper the truth, at once so simple yet profound, that Man is a creature of Nature and her creator in one.

CHAPTER XXIII

MAN A CREATURE AND CREATOR IN ONE[1]

MAN is, then, dependent upon nature, and nature is dependent upon man.

Here is the Gordian knot, that logic with its sharp and eager sword would fain shear asunder.

Yet it is wise to rest awhile from our wearied quest, and discover that a calm contentment steals over us in unbiased contemplation of this unresolved paradox.

Too prone is the restless Western mind to transform the ideal of formal[2] logic into a barren idol, alike in our philosophy of life, in our governmental thought, in our religion and our art.

For ordinary purposes, where the circumstances prescribe the appropriate limits, we may safely speak of our freedom and independence ; but, taken absolutely as standards of life, freedom and independence, individual or social or political, are illusions, *eidola fori*[3] : they deceive men : they betray men into impassible quagmires. In truth man lives at every moment alike in equal freedom and subjection.

[1] Reprinted, in substance, from *A New Chapter in the Science of Government*, 1919, by the author.

[2] Well did he distinguish *formal* logic from *human* logic—that lamented young genius, F. P. Ramsey of Cambridge (1903–1930) (see J. M. Keynes, *Essays in Biography*, p. 300. Macmillan & Co., 1933). It is the famous Pascalian distinction between *l'esprit de géométrie* and *l'esprit de finesse* renascent. In the same book Keynes tells us that the late Professor Marshall, the distinguished economist, was inclined to be more influenced by the intuitive judgments of economists than by the logical evidence advanced. A maxim still more applicable to metaphysicians !

[3] The Baconian *Idols of the Platform*.

For Man is finite in form, infinite in spirit : man is therefore a being in-de-finite,[1] and indefinable.

On realising the in-de-finiteness and indefinability of man, we recognise therein both his finitude and his infinitude, in a word, his indefinitude.

This truth, at once simple and mysterious, we neglect at our peril. From it flows the stream of life, niggardly or splendid. Thus man is both free and determined ; for he is a being in-de-terminate.

Man is a being both ordered and chaotic, and is therefore inchoate.

Man is a being both the same as other men and yet different ; and is therefore a similar being.

There is both equality and inequality amongst men ; and therefore interequality.

Man is a being both dependent and independent, and so is interdependent.

All these aspects of the duality in unity of man may be summed up in the one brief statement :

Man is a creature and a creator in one.[2]

In vain do we strive to develop or diminish one aspect alone of the two sides of the equation : together they contract, equal step by equal step, in size : together they expand, equal step by equal step, in amplitude, fullness, and splendour.

The more fully and accurately man can discover and obey the laws of nature, alike material, vital, and human, the more free man becomes in these three respective realms of his activity.

[1] Compare Victor Cousin (1792–1867). See Flint's *History of the Philosophy of History* : Blackwood, 1893 : p. 457.

This conception, with the orientation of philosophy that goes with it, is steadily invading the manifold spheres of life. Among modern metaphysicians we note that Meinong utilises the indeterminate in his theory of the object (see *The Philosophy of Physical Realism*, by Roy Wood Sellars, Macmillan, 1933). But note also Lukasiewicz's use of " psychological indeterminism."

[2] Compare " the self-creating creature " of Professor Whitehead (*Religion in the Making*, pp. 89, &c., 1927).

Man's spiritual will[1] to creative power is beneficent, full, and effective precisely in the measure that his natural will, his will as *homo naturatus*, humbly learns and reverently obeys those laws of Nature in her triune being, material, vital, and social. In so far as his will is lacking herein, to that degree is it arbitrary and maleficent, destructive to man himself and to nature.

In any and every sphere of life, by a law divine, service and mastery wax and wane together.

Man is everlastingly subject to this universal law, this unique paradox, this equation of existence, whereof the two sides abide equal however they may change in magnitude.

The ancient prophets knew this grand law full well : above all expressions of it perhaps the greatest is : to gain life, life must be given.

Every man as producer is to that extent employed by the whole community : every man as consumer is to that extent employer of the community. And if we consider quality as well as quantity, it stands true that a man's value to his fellow-beings as employee in his own personal creation (psychic and corporeal) of produce is precisely equal to his value to his fellow-beings as employer in his own personal consumption (psychic and corporeal) of produce ; noting carefully in this statement that the " consumption " is that of his own personal re-creative, as opposed to self-destructive,[2] activity (psychic and corporeal). A man's creative production equals his re-creative consumption.

In fine, man can usefully and nobly give out only that which he usefully and nobly takes in ; and, equally take in what he gives out. These values increase together or decrease together, alike in the corporeal and in the psychic

[1] See *Janus and Vesta*, Chap. XI ; especially pp. 171–4.

[2] Thus, anxiety both diminishes the effective value of the intake and consequently also of the output. Angry passion, again, may destroy the psychic and corporeal values of food. The general economic law may (with due precautions) be extended to all material, organic, and human energies, alike corporeal and psychic.

sense. These truths apply to all, from ploughboy to aged prophet.

It is (we venture to repeat) an ethical equivalent to say that a man's measure of freedom and independence and his measure of subjection and dependence are also precisely equal ; and the only way to increase or diminish either is to increase or diminish equally the other.

CHAPTER XXIV

MAN AS MICROCOSM[1] OF NATURE: NATURE AS MACROCOSM OF MAN

" Smaller than the mustard seed, yet vaster than the heavens."
(The *Chandogya Upanishad* on the self.)

WHENCE this marvellous world within everyman which, the more we contemplate it, the more we find within it prophetic images of all things in the great world without ; and the more we contemplate the great world without the more we find therein realisations of those images in the small world within us ?

In harmony with this increasing experience of modern times, let us postulate again the ancient belief, renewed in medieval times, in the theory of man as nature in small, and of nature as man in large ; man as microcosm of nature and nature as macrocosm of man.

The ancient Hindu philosophers, including the later Buddhists, conceive the fashioned cosmos as " *Purusha* "[2] the heavenly man (the " purushottama " being the best of men, the highest spirit) ; which again appears as the " Heavenly Man " of the Kabbalah.

This great tradition has much to teach us, for is not the ultimate, if deeply latent, postulate and faith of science identical therewith and towards which it ever moves throughout its long, long history coeval with the rise of self-reflection in man himself ? To those loyal students both of man and

[1] Compare A. N. Whitehead : each primary actual unit of which the temporal world is composed " is a microcosm inclusive of the whole universe " or " is a microcosm representing in itself the entire all-inclusive universe " (*Religion in the Making*, 1927 : pp. 79 and 87).

[2] " In the beginning this world was Atman alone in the form of Purusha " (Upanishads).

of nature who have given their devotion, unbiased, deep, and ample, to the history of science in its cardinal branches, alike in mechanology, in biology, and in sociology, the evidence is massive and convincing that each and every man contains within his own body embryonic models of every mechanical device in nature : the elements of every chemical substance : the prophetic miniature of every seed of life, not of his own direct human ancestors only, not alone of the direct animal and other organic ancestors of those, but a representative element of every self, mechanical, organic, and human,—in fact, in-de-finite models of all things real in the starry heavens around and in this earth-home, embosomed therein.

Let us then accept in faith this basal postulate as grand exploratory compass for the interpretation of this Multiverse in Universe ; and conceive Nature, universal and unique, as Everyman on larger phenomenal scale, and Everyman, unique and universal, as Nature on smaller phenomenal scale ; Nature and Everyman as models each of the other whereof, in, through, and by the Absolute All-spirit, the sublime Similitude of Man and Nature, each of the three to the others alike, the magnitudes are relative, and, conceived without limits, coincide at their ultimate extremes, the infinitely large with the infinitely small, one in The Absolute.

" Nature, " said an ancient seer, " is hidden in the womb of man and man is hidden in the womb of nature. Hence the age-long travail of each."

That Nature and Everyman, each ultimate and complete (though not completed or perfected), should each be within the other is at once a perpetual riddle for the scientist in all of us European thinkers that we seek to ignore, or to deny, as opposed to our dichotomising logic ; and yet apprehensible to the Eastern sage, envisaging life in its wholeness, as serenity-creating maxim.

Yet the thinker of each continent is duly justified in his measure.

The Eastern Sage, contemplating the Drama of

Existence, sees therein the magical play of his own ultimate Brahmahood.

And the Western Scientist ! Has he not his unsurpassed dichotomising instrument (the perfect mirror of the ideagenous bioticons of nature) for the increasingly minute and detailed description of the fissiparous life of man in nature and of nature in man, emanating inevitably from the endless procession inherent in the mutually representative character of the partners in that great Drama of Existence wherein the actors find their stage and audience together, each within the other.

An endless procession of life we have named it. Students of philosophy with a mathematical training will recognise the legitimacy of this description by recalling the great principles emanating from the historical definition of infinity due to Dedekind (1888) in relation with " self-representative systems " (" Was sind und was sollen die Zahlen ? ").

The postulate of the macrocosm and the microcosm might, conversely, be discovered from patient and acute application to experience of the concomitant principles of the fissiparous character of nature and the parallel dichotomising capacity of human thinking.

The student of philosophy with no special mathematical training may fruitfully enrich his conceptions both of an infinite regress (or process) and of the infinitely small by persevering attention to the subtleties of the famous map problem : " What is involved in the construction of a complete map of any diversified region (say, England) *upon a part of the surface of that very region.* To be complete, the map must contain as part of itself a map (or image, say) of its own contour and contents as forming part of England. This again involves a repetition of the same process with a smaller map ; and so on indefinitely. Assuming infinite divisibility of the surface, the series is seen to be without limit ; though not necessarily endless in time to a creator able to operate with infinitesimal times.[1]

[1] See also p. 155.

The like principles, steadily considered, help to make clear to the plain man in us all the unending nature of the story of the growth of philosophy and likewise its special character. It is the duty, aim, and passion of the philosopher to interpret the universe by selected regions of language, the whole by a part of the whole.

The very possibility of such an interpretation postulates " the infinite divisibility " alike of the universe itself : of that part thereof we know as man the interpreter : of that part of man the interpreter we know as articulate language : of that part of articulate language native to the interpreter ; and lastly, of that part of his native tongue the thinker selects as fit for the philosophical art—yet each one of these *quâ* natural only.

The history of philosophy is thus, of necessity, an endless construction of an ever richer map of this majestic universe as revealed to the experience of the successive thinker-artists whom we know as philosophers,—and in everyman lives potential such a one, lovers of that All-knowing Wisdom hidden and revealed in Eternity,—each of whom adds his modest yet unique contribution to the great, historic, philosophical map of Reality for the contemplation and joy, for the enlightenment and guidance of his fellow beings, *ad majorem Dei gloriam.*[1]

And this supreme difficulty confronts the thinking artist: the subordination, to his instinct for unity, of his passion for endless dichotomising into detail of reality and unlimited wandering into regions, still unbounded and unexplored.

To manifest the indescribable mystery of existence, two observations (quoted from memory of about ten years ago) of those acute thinkers, Bertrand Russell and Ludwig Wittgenstein, are here in place.

[1] We remember—but are not daunted by it—the ironical description by R. Habs (1883) of the illustrious Leibnitz as " *der Vater der Philosophie ad majorem Dei gloriam.*"

Every language, says Wittgenstein,[1] has a structure concerning which, in that language, nothing can be said. Upon which Russell remarks that there may be another language interpreting the structure of the first language and having itself a new structure ; and to this hierarchy of languages there may be no limit.

A like conception informs the saying of Silberstein, the eminent writer on mathematical physics, that there may be a hierarchy unending of galaxies of galaxies of stars —the very possibility of which awakes a profound awe in us as we meditate upon its mystery.

Similar was the faith of that strange poetic genius, George Macdonald,[2] that all beauty in one stage of being is conserved in the next.

All such conceptions are implicit in, though not co-extensive with, the postulates already enunciated :

(1) The co-incidence in The Absolute of the infinitely small and the infinitely great. We may call this, from its famous expositor, the Pascalian [3] postulate.
(2) Man and nature has each its own unique hierarchical series of representative forms.
(3) The postulate of the macrocosm-microcosm—man in nature and nature in man.

On these grounds alone, however, we cannot assume that this progressive hierarchical revelation of the being and becoming of man and nature in The Absolute is endless

[1] *Tractatus Logico-Philosophicus* (1921, 1922); originating an important Viennese school of thought ; at Cambridge, however, there is a reaction against the highly abstract formalism of Russell and his follower, Wittgenstein.

[2] 1824–1905.

[3] "... *il ne faut pas moins de capacité pour aller jusqu'au néant que jusqu'au tout ; il la faut infinie pour l'un et l'autre, et il me semble que qui aurait compris les derniers principes des choses pourrait aussi arriver jusqu'à connaître l'infini. L'un dépend de l'autre, et l'un conduit à l'autre. Ces extrémités se touchent et se réunissent à force de s'être éloignées, et se retrouvent en Dieu, et en Dieu seulement.*" Blaise Pascal, *Pensées* (*d'après l'Édition de M. Brunschvigg*), p. 26. Préface d'Émile Boutroux, Introduction par Victor Gouraud. Collection Gallia, publiée sous la direction de Charles Sarolea, Londres, J. M. Dent and Sons ; Paris, Georges Crès et Cie, 1913.

in time. To take a simple possibility : the times of creation of the successive terms in the hierarchy may be ultimately infinitesimal alike forwards and backwards and form a convergent series : in which case the total duration (or the total period if the process is oscillatory) of this sublime revelation, though unimaginably vast, will have a beginning and an end.

The like considerations may serve to throw a faint light, in the last analysis with its ultimate synthesis, on the mystery of the intervolutionary process—a process of evolution and involution, periodical and rhythmic.

The initial terms of the periodicities of man in nature and nature in man may be infinitesimal alike in spatial magnitude and in temporal duration, expand at length into finite forms, and ultimately contract again into the infinitesimal.[1]

[1] Cf. Pascal: It is conceivable that all nature may be in a point. See also receding footnote, and *Pensées*: pp. 25, 26, and 100.

CHAPTER XXV

INTERVOLUTION

THIS grand, old postulate,[1] inexhaustibly inspiring for the description and interpretation of our universe, we may here consider a theory of *intervolution*, as uniting the conceptions both of evolution and of involution.

From this intervolvedness of man and nature springs perpetually the life of each. An image of the process is seen in the union of the male sperm with the female egg to re-incarnate the individual.

From this postulate in ultimate analysis flows the sempiternity of everyman, a real being without beginning or end, though subject in form to the spatio-temporal conditions of all becoming in periodical dis-appearance (death) and re-appearance (birth).

Herein is manifested alike the unifying potency of his unique individuality and its differentiating potency that enriches his experience.

By intervolution, then, is implied the intervolvedness, alike undulatory and corpuscular, of man and nature—the unfolding of all nature in every man at his re-appearances and the infolding of every man into nature at his dis-appearances, rhythmic re-incarnations of every man in space-time.

[1] The macrocosm of nature, the microcosm of man.

CHAPTER XXVI

REVERSIBILITY OF LAWS OF NATURE IN THE INFINITELY SMALL AND LARGE

THE postulate involves the ultimate co-incidence of the infinitely small and the infinitely great; from which there further flows a transmutation of those statistical, physical sequences described as " laws of nature " (though with equal validity, no more and no less, describable as " laws of man "). In that transmutation is a reversal of those laws, as the magnitudes measured become indefinitely small, in such wise that the properties of the object under consideration become those of a new order and ultimately co-incide with those of similar objects indefinitely large.

There is a large, yet finite, spatio-temporal domain within which the statistical " laws " of science, based upon hypothetical principles of probability, hold good ; beyond this, at either extreme, these statistically based laws become invalid.

> Thus the laws (or sequences) of physics involving temperature take on new forms as the temperature approaches without finite limit to the zero of absolute temperature ; and, as, in ultimate analysis and final synthesis, all physical laws involve temperature changes, so will all such laws be found to undergo a like transmutation when the temperatures concerned approach zero, or, equivalently, become large without finite limit.

The only method whereby man, as scientist, can experimentally derive the conditions or sequences obtaining in the indefinitely large is to approach, as far as possible with his instrumental measurements, in the direction of the indefinitely small, though this zero limit he can never reach.

Time and space themselves, for all experimental measurements, are necessarily finite.

Laplace found the grandeur of man in the smallness of the base by which he measured the heavens : modern science and philosophy are discovering a still more sublime grandeur in the co-incidence of the infinitesimal and infinite whereby is created a finite world of man and nature in periodical evolution and involution.

This postulate and its corollaries invalidate those startling predictions of disaster made even by eminent scientists as to the fate of the natural universe, and of man and his works.[1] The principles of probability applied to objects in fields foreign to their essential character will ever produce sensational but nonsensical results.

[1] The grotesque misuse of mathematical probability is most evident, perhaps, when misapplied to the significance of works of art. The thoughtful reader will derive both increased respect for the dignity of man, and faith in the uniqueness and value of his works of art, if he will persevere until he has discovered the subtle fallacies (there are several) underlying the now famous, widely-credited, and widely-quoted statement attributed to Huxley (if justly, then showing how even a great scientist can sometimes talk nonsense). This statement in effect affirms that a few " monkeys set to strum unintelligibly on typewriters for millions of millions of years, would be bound in time to write all the books in the British Museum "—including, therefore, the works of Shakespeare, or, say, the sacred books of the great religions of the world. See also Chap. XXXVIII, and Index (under Silberstein).

CHAPTER XXVII

MAN HAS HIS OWN UNIQUE, HIERARCHICAL SERIES OF REPRESENTATIVE FORMS

WE shall then conceive every man as an in-de-finite, unique being, in his ultimate essence infinitely representative of the great cosmos in its minutest details.

This being, or self, alike empirical and transcendental, is transfused through all space and all time from the indefinitely small to the indefinitely large unique units or elements of space-time.

The more deeply, without finite limit, one penetrates the qualities of those very infinitesimal space-time elements, the more fully does one recognise therein the qualities of the infinitely large, the deeps becoming ultimately identical with the heights, each a constellation of starry worlds. With the great Pascal (1623–1662), mathematician, philosopher, and mystic, I find within myself an indestructible faith and intuition that the extremes of nature pass into each other and coincide. This faith both supports man's deepest experience and is thereby supported.

Thus the entire existence in space-time of every man is conceived as that of an infinitely divisible natural being[1] in successive incarnations,[2] in each of which the being, traversing

[1] Always remembering the ancient truth that, as spiritual being, every man is *individual*—one, continuous, and indivisible.

[2] This conception, with its implications, has many points of independent coincidence with the highly original and masterly presentment of the self given in *The Nature of Existence* (2 vols.) by MacTaggart Ellis MacTaggart, edited by Professor C. D. Broad, Cambridge University Press. As adviser on metaphysical publications, suitable for the Education Library, to the Education Committee of the London County Council, it was my duty to study this remarkable work in 1928. The eloquent and penetrating portions of the second volume on re-incarnation and love are particularly worthy of attention. Sub-

a series of definite forms, hierarchically [1] ordered, evolves outwards from minimum consciousness at the moment of formal birth in embryo to its maximum consciousness during maturity, from which epoch it involutes inwards to minimum consciousness at the moment of formal death in the corpse.

In circumscriptive ubiety (as the medieval schoolmen of Europe would express it), ever diffused as is the body complete throughout all space-time in varying intensities of sentiency and sensibleness, the here-now form of that body complete is the intensest region of the self, the most sentient in itself as it is the most sensible to other selves.

> As physical scientists we recognise that every atom and photon, electron and proton, or other conventionally "ultimate" unit of mechanism in the here-now body has a measure of existence throughout space-time. Likewise for every "ultimate" organic unit (bioticon) and every "ultimate" human unit (may we term this "homunculus").

stantial as are the coincidences between this work and my own—and I was grateful to find support in so powerful a thinker—I wish to repeat that on the sublime question of Deity we differ, and therefore also on the question of the penetrability or impenetrability of one self by another. For me, faith in Deity, alike personal and superpersonal, is a necessity of my being and its whole nature, with its entire experimentation and resultant experience.

[1] This word has both an empirical content and a transcendental content. The empirical falls within the descriptive sciences of phylogeny, physiology, and thanatology. The transcendental falls under those spiritual sciences creating norms of goodness, truth, and beauty. The elaboration of the hierarchies of man's life is dealt with in the proposed sequel to the present essay—forming, indeed, Part II of *Orpheus and Eurydice* (see p. 12).

CHAPTER XXVIII

THE LIMITS OF SCIENCE

" Ne'er canst thou see the see-er of seeing."
VEDANTA.

TRANSFUSED through all space and all time, and thus in truth spaceless and timeless, the germinal origin, the divinely creative spark of the individual, of necessity is invisible to the sight of the eyes itself has created, untouchable by the hands itself has formed, inaudible to the ears itself has fashioned, imperceptible to any sense or organ of this mortal incarnation, themselves but the noble instruments of its own creativeness. Thus beyond space and beyond time this divine root of our being abides scatheless the grasp of space and the tooth of time. Life knoweth not its life, and death knoweth not its death.

The ultimate oracles of science are necessarily descriptions of facts in terms of space and time ; and those facts are themselves derived from observations either of the world without or of the world within by the senses, external or internal, which themselves are created by the spirit of man himself.

The more humbly and therefore the more profoundly every man contemplates these truths the more clearly does he see that science cannot explain man in terms of space and time, neither his origin thereof, nor his duration therein, nor his departure therefrom. Every man must everlastingly remain the ultimate mystery to himself.

CHAPTER XXIX

AN ORPHIC HYMN OF ANCIENT DEMETER AND MODERN SCIENCE

WITHIN every man is "The Universal Man" at once penetrating scientist, music-making poet, and loving saint.

The mystery of man!

When the oracle of the scientist is dumb listen to the pæan of the poet in praise of life.

Where the art of the poet ends wells up from our inmost being the chant of the saint.

With the chant of the saint Wisdom herself has uttered her last word.

Can we catch even faintly the echo of these words from saint and poet and scientist?

Climb to a mountain top. The toilsome ascent achieved, contemplate the enchanting vision far, far away. Listen to the echo within thine heart.

A Hymn of Ancient Demeter and Modern Science [1]

From the bounteous womb of his great Motherland man receives the gift of life: that gift to Her each must render back. The terrors of Death must each one face.

But such things veil from us their inmost meaning.

All great things and good hath God seen fit in infinite wisdom to offer to our mortal eyes in forms that repel and chill our feeble hearts; whereas the garb of evil draws us as with enchantment. Our natural finiteness comprehends not the peerless gift God offers; but in moments of

[1] Capt. A. L. Owen of Strand School gave valuable criticism here.

exaltation of soul and ecstasy of body the infinite spirit of man pierces through the dread form and sees with the inner eye the majestic figure of the All-Beautiful.

Behind the veil of Death appears a smile of ineffable sweetness, so compelling that the spirit would fain abide therewith for ever.

At that supreme moment when Death meets Life, Man rises to the pinnacle of heroism and achieves his immortality. In Death's embrace Man consecrates his Life.

His grave is the bosom of universal Mother-Earth and his vault is the starry firmament of heaven. In the spirit of each lives the spirit of Earth. Dust we are, and to dust we all return.

But every smallest particle of that priceless dust enfolds within itself a very galaxy of stars ; and this God-sustained body thrills everlastingly in ways that we comprehend not, but yet can apprehend, with the magic of matter, the miracle of life, and that great mystery, the individuality of man.

The Resurrection is not a tale that is told : not a fable whose truth is fled : but a great vision of the spirit that dwells imperishable and divine in the secret heart of " The Universal Man."

* * * * *

" The eternal God is our refuge and underneath are the everlasting arms."

* * * * *

The Pisgah vision fades. Yet fading it gives courage and compass to the descending climber, once again, a plodding pedestrian, to tread the trackless plains of logic, on his strange pilgrimage through this world of life and death.

CHAPTER XXX

NATURA NATURATA NATURANSQUE

OWING to the similarity of the constitutions of man and of nature, to every description of the one, by diagram (or other means), corresponds a descriptive diagram of the other. To avoid unnecessary duplication, generally a diagram of man will be used, at times a diagram of nature.

Nature and man may each be conceived as passive and created, or as active and creating. Employing the terminology of Spinoza (1632–1677), though not concurring, in the main, with his orientation of metaphysics,[1] we may name the former aspect of nature, *natura naturata* : the latter *natura naturans*. Even more fitting a name for the latter is that of Lucretius (96 (?)–55 B.C.) in his great poem " De rerum natura "— *natura creatrix*.

As with man, nature is creature and creator in one.

Over two thousand years ago Aristotle (384–322 B.C.), " Master of those that know, " drew a like distinction between intelligence and reason, naming intelligence the form-receiving power of mind (*νοῦς παθητικός*), and reason the form-giving power of mind (*νοῦς ποιητικός*), the " poetic " faculty. Comparable therewith is the distinction drawn by Shankara between *avidyā* and *vidyā*.

The like distinction pertains to *Verstand* and *Vernunft* in German philosophy ; *Verstand* is the understanding, conceived as dealing with finite relations and dependent being and giving rise to general notions or concepts of experience ; while *Vernunft* is reason, conceived as a supreme faculty of the mind, dealing with infinite and independent

[1] Spinoza identifies Nature and God (*Deus sive Natura*).

being. A corresponding distinction may be drawn between *entendement* and *raison*,[1] *mens* and *ratio*, between *scientia mathematica* and *scientia intuitiva*, between *relative logic* and *absolute logic*, and lies perhaps at the root distinction of the Chinese K'i and li.[2]

The English words *empirical* and *transcendental* (this latter not to be confused or identified with *transcendent*, applicable to Deity alone) substantially embrace the like distinction. The *empirical* is that which pertains to experience : the *transcendental* is that which pertains to the necessary conditions of experience and is constitutive thereof. The empirical is thus to be conceived as pertaining to *phenomena* ; the transcendental as pertaining to *noümena*.

We may also thus use *experience* and *experiment* as indissoluble yet distinct aspects of man's sentiency, wherein the experimental pertains to the (noümenal) creativity (however infinitesimal) of man and the experience pertains to the phenomenal resultant (however infinitesimal) of that creativity.

All these pairs of correlative terms serve to elucidate more fully the distinction in unity and the identity in difference between the two aspects of man in question.

The same statement applies to the two aspects of nature.

Many traditional lines of philosophy (Eastern and Western) converge upon one or other of these great complementary conceptions whose synthesis is an essential characteristic of the present view. A table of them is therefore given.

To obtain a synoptic view of all these pairs together is not a formidable labour if one devotes a little, quiet, preliminary meditation to the successive individual pairs of words in the table : after which the synoptic view can be achieved through the exercise here, in quite modest measure, of the same spiritual faculty by which a Mozart, endowed therewith in

[1] Even the great Pascal at times confuses *raisonnement* with *raison*.

[2] See Chap. III, xix, p. 66, fn. 1.

DEITY

as Super-personal ABSOLUTE transcending, and as All-personal GOD immanent in, Nature within Man and Man within Nature.

MAN		NATURE	
Man experiencing	Man experimenting	Nature experiencing	Nature experimenting
Man determined by the past	Man determining the future	Nature determined by the past	Nature determining the future
Man empirical	Man transcendental	Nature empirical	Nature transcendental
Man phenomenal *Man as creature*	Man noumenal *Man as creator*	Nature phenomenal *Natura naturata*	Nature noümenal *Natura naturans*
Man natural	Man supernatural	Nature anthropomorphic	Nature superanthropomorphic
ἄνθρωπος παθητικός	ἄνθρωπος ποιητικός	φύσις παθητική	φύσις ποιητική
Man as finite, spatio-temporal form	Man as infinite, universal, and eternal spirit	Nature as finite, spatio-temporal form	Nature as infinite, universal and eternal spirit.
Man as secular and violable	Man as sacred and inviolable	Nature as secular and violable	Nature as sacred and inviolable
MAN		NATURE	

as Superpersonal ABSOLUTE transcending, and as All-personal GOD immanent in, Nature within Man and Man within Nature,

DEITY

TABLE I

superlative degree, heard as one simultaneous whole the intricate parts of one of his great symphonies.[1]

[1] On the high authority of Schopenhauer music has been described as a time-art, architecture as a space-art. If our analysis of the constitution (see Frontispiece) of man and of nature is valid, Schopenhauer's distinction is not fundamental. Every art has its spatio-temporal form alike in its composition by the artist and in its appreciation by the observer; every art also has its spiritual unity, again alike with artist and observer, *sub specie æternitatis*.

There are schools of philosophy sceptical, or even contemptuous, of the element of reality in the transcendental halves of these pairs of terms ; as, too, there are opposing schools that similarly ignore the elements of reality in the empirical halves.

Such extreme schools of thought are apt to miss, in consequence, much of the rich quality of life ; though, happily for them, they rarely, if ever, find it possible to envisage all life through one eye only of the binocular mind, however tenaciously they cling to seemingly rigorous consistency.

Expelled through the door, life in its richness rushes ever in again through the windows of the soul and refreshes anew the dry lips of the logician.

CHAPTER XXXI

DEITY

Above and beneath the preceding Table its completion
in Deity has been deliberately suggested, as symbolising,
though with an imperfection indescribable,
the sublime mystery and truth that
the complete and everlasting environment of man
in nature and nature in man, in and around,
through and through, is Deity, wherein man and
nature alike "live and move and have their being."

ON this sublime theme I can venture, here and now, but an inadequate yet, I hope, pregnant indication of my faith, in the full realisation that here above all must every man be sincere with himself so that he may fulfil calmly and without regret his highest responsibility of utterance.

Brought up in the Christian religion of the English Church, the great traditional faith of my forebears, and wooed for a few years round about twenty by the ideal of becoming a minister of that Church, my world-orientation upon the being of deity thereafter insensibly changed from Christianity through a vague theism to an ultimate stage of scientific scepticism and perplexed agnosticism at that period of my life.

In this uneasy stage I lived for some years, until, in the autumn of 1903, in my thirty-seventh year, standing with my wife on a lofty Cumberland hill, overlooking the scenery of Derwentwater, meditating silently and contemplating the distant view, there awoke suddenly an inner sentiency, definite, overwhelming, exalted and exultant, of the sublime spiritual being of the Universe, accompanied, as if forming its sensible manifestation, by a vivid bodily sentiency as of the falling away of heavy, imprisoning garments.

Deliberately do I use the word sentiency, as embracing not emotion and feeling alone, not illuminant truth alone, not alone imagination and sense, but also the corporeal counterparts of each, and all these together fused into vital unity with the whole man complete, soul, body, and spirit, one, and coextensive with, all nature.

It was indeed a rebirth. Embryonic conceptions within the old ideas had reached strength to split their shells : and the exultation within and the freedom of movement without were the respective manifestations of this critical event.[1]

Since that day the growth of my faith in Deity has been continuous in richness and amplitude. And if the highest ecstasy therein has been limited to such rarer moments as that above described, it is my quiet confidence in the divine presence and potency in the simplest acts of daily life that in their accumulation have created those rarer ecstasies.

For if repeatedly in my imperfections each day I forget God, yet profoundly do I know that God never forgets me.

At long last, too, there awoke within me, as from some unimaginably far-distant dream of my being, a clear and sure sentiency of Deity, both all-personal as God, in everlasting descent to inspire my finitude, and super-personal as The Absolute to which my infinitude may eternally aspire to ascend.

Just as the ideal of world-citizenship is implicit in the humblest family membership, and becomes increasingly, though never perfectly, realised in the successive experiences of family (with its three generations), city-region,

[1] Compare the event exquisitely described in a passage of Uriel, ending:

> " And all my fathers, men
> Of a thousand generations, rushed to my eyes,
> Rose from the dead, stood up, and worshipped Thee."

William Force Stead, *Uriel, a Hymn in Praise of Divine Immanence*; pp. 20 and 21 (London, Cobden-Sanderson, 1933). Did space and privilege permit, we should be tempted to quote the whole thirty-three pages of this noble poem, and its admirable *Apology* to boot.

nation, and race, of which it is the culminating synthesis ; so is the ideal of monotheism implicit in the worship of the family spirit (alike ancestral, contemporary, and descendantal), and becomes increasingly though never perfectly realised in the successive worship of the hearth-spirit (Vesta, with her Lares and Penates), the genius of the city-region (*genius loci*), the tribal deity and the national pantheon, the racial-god, rising at length into the cosmic spirit, which is the culminating synthesis of all. May we not say that monotheism, emptied of these, its necessary hierarchical stages, alike in the evolution of all humanity and the education of each individual, is as vague and unsatisfying a religious belief as is cosmopolitanism emptied of home and citizenship, of patriotism and race ? In the final synthesis, the spirit of world-citizenship is the spirit of world-religion ; and thus alone does man abide terrene, yet become cosmic ; never cease to be dust, yet ever remain a deity.[1]

At those rare moments when he realises alike his wholeness and yet also his imperfection, there is open to every man a sentiency of all nature within himself, and simultaneously a sentiency of Deity, immanent as personal in nature within himself and yet also as super-personal Absolute transcending both nature and himself.

The one sentiency creates in man an ecstasy of plenitude, the other a consummate serenity, that, in union, give every man the certitude that he is eternal.[2]

Through the seeds it sows, this divine sentiency, itself born from experiment and experience, is at once sagest

[1] Here surely is a basis for conciliation of the Christian Heaven with the Hebrew Paradise ? Also an interpretation of Shintoism ?

[2] Compare the affirmation of Spinoza : " Sentimur, experimurque, nos æternos esse." (*Eth.** Book V, xxiii, Sch.) as applied to the mind (at least in part) ; yet contrast the Spinozistic faith with the affirmation in our essay of the eternity also of the body.

* It is well to recall the fuller title of this epoch-making work of Spinoza (published after his death owing to contemporary misunderstanding of the philosopher's character) : *Ethica ordine geometrico demonstrata.*

interpreter of life and death, adds joy to pleasure and patience to pain, and is the never-failing anodyne of worry.

In the dark nights of the soul, when sleeplessness tortured the mind and burst arteries filled the body with vivid apprehension, the spirit of the Orphic hymn has brought consolation and calm, in revealing to the man violable his manhood inviolable :

" Sweet Lord, in Thine almighty Hand,
Serenely may we stand :
On thine all-feeling Breast
Our wearied hearts find rest :
From Thine all-seeing Head
Divinely ours are fed.
And so with Thy good Will
Our whole selves we fill :
Secure from every harm,
Bathed in Thine endless charm."

Historical footnote.

Such experiences (*waking dreams*) are doubtless frequent among those accustomed to long and concentrated meditation. Thus Mach tells us :

" I have always felt it as a stroke of special good fortune, that early in life, at about the age of fifteen, I lighted, in the library of my father, on a copy of Kant's *Prolegomena zu jeder Künftigen Metaphysik*. The book made at the time a powerful and ineffaceable impression upon me, the like of which I never afterward experienced in any of my philosophical reading. Some two or three years later the superfluous rôle played by ' the thing in itself ' abruptly dawned upon me. On a bright summer day under the open heaven, the world with my ego suddenly appeared to me as *one* coherent mass of sensations, only more strongly coherent in the ego. Although the actual working out of this thought did not occur until a later period, yet this moment was decisive for my whole view. I had still to struggle long and hard before I was able to retain the new conception in my speciality. With the valuable parts of physical theories we necessarily absorb a good dose of false metaphysics, which it is very difficult to sift out from what deserves to be preserved, especially when those theories have become very familiar to us. At times, too, the traditional, instinctive views would arise with great power and place impediments in my way. Only by alternate studies in physics and in the physiology of the senses, and by historico-physical investigations (since about 1863), and after having endeavoured in vain to settle the conflict by a physico-psychological monadology, have I attained to any considerable firmness in my views. I make no pretensions to the title of philosopher. I only seek to adopt in physics a point of view that need not be changed the moment our glance is carried over into the domain of another science ; for, ultimately,

all must form one whole. The molecular physics of to-day certainly does not meet this requirement." (Dr. Ernst Mach, *Analysis of the Sensations* translated by C. M. Williams: The Open Court Publishing Company, 1897, p. 23.)

The illumination sometimes comes in an alternation, in place of a combination, of waking and dreaming states. Thus of Descartes (1596–1650) we read:

"The winter of 1619, spent in (military) quarters at Neuburg on the Danube, was the critical period in his life. Here, in his warm room (*dans un poêle*), he indulged those meditations which afterwards led to the *Discourse of Method*. It was here that, on the eve of St. Martin's day, he 'was filled with enthusiasm, and discovered the foundations of a marvellous science.' He retired to rest with anxious thoughts of his future career, which haunted him through the night in three dreams, that left a deep impression on his mind. 'Next day,' he continues, 'I began to understand the first principles of my marvellous discovery.' The date of his philosophical conversion is thus fixed to a day. But the light was as yet dim; he had only glimpses of a method which should invigorate the syllogism by the co-operation of ancient geometry and modern algebra." (*Encyclopædia Britannica*, 9th ed.: Descartes, 116.)

For more modern instances (experiences of McTaggart and Sir Francis Younghusband), see G. Lowes Dickinson, *J. McT. E. McTaggart: A memoir*, Chap. V, especially pp. 94 and 95. (Cambridge, at the University Press, 1931.)

CHAPTER XXXII

NATURE A CREATURE AND CREATOR IN ONE

" The prophetic soul
Of the wide world dreaming on things to come."
SHAKESPEARE, *Sonnets*.

THE grandest experiment of nature is man himself, as nature is the great creation of man.

Owing to this intervolvedness of these two primal categories of being, man in nature and nature in man, the qualities already postulated of man[1] and the principles derived therefrom are equally those of nature.

Thus nature is finite in form, infinite in spirit : nature is thus a being in-de-finite[2] and indefinable. From this truth, simple and mysterious, it follows that nature is both free and determined, and so is a being in-de-terminate.

Nature is a being both ordered and chaotic, and is therefore inchoate. Hence arises in certain philosophic observers of nature in all ages, from Hellenic and Roman onwards to modern times, that fascinating and noble, yet unsatisfying and inadequate, conception of an evolving god, a deification of nature.

Nature is a being both the same as man and yet different, and so is a similar being.

Nature is a being dependent on man and yet also independent, and is therefore an interdependent being.

Nature is both equal to man and unequal, and so is inter-equal with man.

All these aspects of the duality in unity of nature in man and man in nature may be summed up in the one brief fact and truth commingled, the primal equation of all existence :

[1] Chapter XXIII.

[2] See also footnote 1, p. 148.

Nature and man are each creatures and creators in equal and indissoluble unity.

The source and sustenance of that primal equation, that unity of creaturehood and creatorship, abide with the Supreme Being, immanent in man and nature, yet transcendent thereto, absolute, eternal, omnipresent, universal, omniscient, omnipotent, inscrutable.

In vain may nature strive to augment or diminish one side alone of the equation ; together they expand or contract, equal step by equal step.

The more fully and accurately nature can discover and obey the laws of man, alike mechanical, organic, and human, the more free nature becomes in these three respective realms of her activity.

Nature's spiritual will to creative power is beneficent, full, and effective precisely in the measure that her natural will, her will as *natura naturata*, humbly learns and reverently obeys those laws of Man in his triune being, mechanical, organic, and human. In so far as her will is lacking therein, to that degree is it arbitrary and maleficent, destructive to herself and to man.

In any and every sphere of life, whether of nature in man or man in nature, service and mastery wax and wane together.

Man and nature are everlastingly subject to this universal law in the Supreme Being, this unique paradox, this equation of existence, whereof the two sides abide equal however they may change in magnitude.

The ancient prophets knew this grand law full well ; above all their expressions of it perhaps the greatest was : *to gain life, life must be given.*[1]

[1] " All through Life I see a cross,
Where sons of God yield up their breath.
There is no gain except by loss,
There is no life except by death."

The principle underlying such truths is (1) the scientific basis of biology, (2) the cardinal doctrine of Christianity and Buddhism, (3) the transcendental correlate of (1) (" He that loseth his life shall find it ").

Interpreting this statement in detail, we see that, using life in its broad sense as co-extensive with any natural activity, it has a three-fold sphere of application, respectively belonging to the mechanical ("material"), organic, and human realms of nature or man, and deriving directly from the three principles of the conservation of mechanical, organic, and human energies.

CHAPTER XXXIII

THE SUBJECTIVE AND THE OBJECTIVE

(i) THE SECOND DUALITY IN MAN AND IN NATURE

SO far we have been principally concerned with the distinction in reality between the empirical and the transcendental, between the temporal and the spiritual, between the creaturely and the creative, between the aspect of reality named secular and the complementary aspect named sacred.

It is now desirable to turn back to the statement on unity and multiplicity in Chapter XII. concerning the passage, at conception, of the self's natural universe into a natural multiverse, in which we selected the duality in unity of subject and object as the most striking characteristic.

Object and subject may, if imperfectly, be conceived as the convex aspect and the concave aspect respectively of one and the same curve : neither is cause of the other : to a change in either exists an accurately corresponding change in the other : they are different aspects of the same reality.

The great primary and irreducible facts of every man's[1] experience are, indeed, these :

(i) That his experience is both bodily (or objective) and psychic[2] (or subjective).

(ii) That the objective experience and its subjective counterpart are alike diversities in unity and identities in difference, the existence of either depending upon that of the other.

(iii) That this primordial experience of every man with

[1] And, by analogy, of every other self (mechanical or vital).

[2] Interpreting the "psyche" as the mind *quâ* natural (or empirical). There are thus neither minds disembodied nor bodies inanimate. See diagram 13, p. 338.

objective phenomena, as psychic body, and with subjective phenomena, as embodied psyche, is the abiding foundation and exemplar of all his experience, which is thus an indissoluble union of subjective and objective.[1]

(iv) That this primordial experience develops by the extension of his natural will and personality inwards into the indefinitely small, and outwards into the indefinitely large, spatio-temporal world of nature, itself also embodied psyche and psychic body.

Thus the next diagram is this :

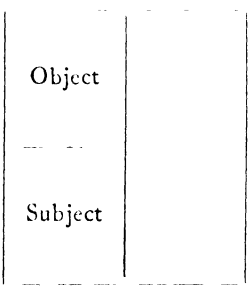


DIAGRAM 3

or, adding " form " and " spirit " :

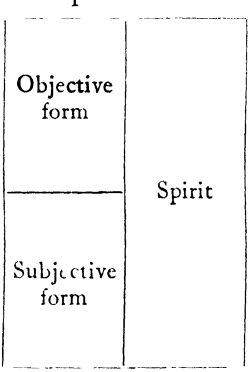


DIAGRAM 4

[1] In the language of modern epistemology (though with a different metaphysical basis) : " In every act of primary cognition, the objective phenomenon and its subjective counterpart are born into consciousness at the same moment, because the reality of either depends upon that of the other."

Each diagram applies both to man the microcosm and to nature the macrocosm.

These two correlative terms, subjective and objective, will, *mutatis mutandis*, be subsequently extended to the spiritual world, with the added interpretation that spirit alone can be subject to itself as object, and object to itself as subject : spirit is, indeed, subject-object in one. This distinction qualifies the mutual relationship between the pairs, objective and subjective, of spiritual sciences respectively deriving from the three cardinal spiritual sciences (the *Geisteswissenschaften*). (See Chap. XLIX).

(ii) CORPUS AND ANIMA

Let us return to " subject " and " object " in the empirical world, the world of form.

The natural man complete (though, as yet far from completed in the sense of perfected) has an objective form and a subjective form which we shall postulate as correlatives.

Thus to every element of man's objective form exists an accurately corresponding element of his subjective form, and conversely.

The objective (outer) form, the extended body of the natural man complete, must, in last analysis and ultimate synthesis, be conceived as co-extensive with all space and all time, past and present, though not co-incident therewith. Let us call this complete, extended body of man the *corpus* of man, and the corresponding complete, subjective (inner) form, the *anima* of man.

The same two terms denote the objective and subjective forms of nature (as *natura naturata*), its *corpus* being the objective form throughout all space and all time, past and present, and its *anima* (the ancient *anima mundi*) being the corresponding subjective form.

In parenthesis and in anticipation—we regard nature the macrocosm and man the microcosm as each uncom-

pleted, each imperfect, each neither a chaos, nor, as yet, a cosmos, but beings inchoate, each periodically evolving and involving towards the perfection of a cosmos, in so far as they co-operate together in harmony with the Divine Being whose design for the perfection of each becomes revealed in their majestic mutual experiment and experience.

There is thus a one-to-one correspondence between *corpus* and *anima*, whether of nature or of man.

(iii) SOMA AND PSYCHE

What of present-man and nature ?

This momentarily existing aspect of man and nature we conceive as partial wholes of man and nature complete.

The objective form of this partial man (or nature) let us name the *soma* (σῶμα) and the corresponding subjective form the *psyche* (ψυχή).

Here again there is a one-to-one correspondence between *soma* and *psyche* ;—as also, we remind ourselves, between the macrocosm and the microcosm.

The integrated summation[1] of all the partial wholes (soma and psyche) of man individual between " conception " and " death " forms one of the spatio-temporal lives (somatic and psychic) of the individual.

" Soma " and " psyche " are thus correlative terms : the soma is the psyche considered objectively (outwardly), the psyche is the soma considered subjectively (inwardly).

And what of " conception " and " death " of nature ?

[1] More adequate, but perhaps at present too unusual, a description would be to speak of the constellated synergy of the somatic partial wholes and the integrated synthesis of the psychic partial wholes. To increasing integration of mind corresponds increasing constellation of body ; and *vice versa*.

(iv) " DU GLEICHST DEM GEIST, DEN DU BEGREIFST "[1]

Nature having a similitude to every man, and every man being unique, nature must have to every man a form characteristic of that man. There are thus as many natures as men[2] ; and these natures are the respective dream-worlds of men, as men are the waking-worlds of these natures. Where and when every man is conscious, his dream-world is nature hyperconscious ; and where and when nature is conscious, its dream-world is man hyperconscious. Where and when every man is hyperconscious, his waking-world is nature conscious ; and where and when nature is hyperconscious, its waking-world is man conscious. Every man complete is, in truth, identical with the nature whose similitude he has.[3]

Yet selves interpenetrate and their categorical constitution is identical for all men. Thus, as simplest postulate of interpretation, we may conceive all men as one " universal man," and all natures as one universal nature, and universal nature as identical with " universal man."

In such conception, the trinity in unity of man, nature, and immanent Deity becomes the duality in unity of man and God wherein, in ancient faith and language, man is " the image of God " immanent.

[1] " Thou art the image of the spirit thou comprehendest." As an interesting coincidence compare the application of this famous passage by Professor Max Planck (see Reference, p. 71 : and p. 538 of that reference).

GOETHE.

[2] " He himself is the world, and he asks to be free from the world." (DIWAN OF JAMI, (1419–1493), last of the classical Persian poets.)

[3] " We receive but what we give,
And in our life alone does Nature live."

COLERIDGE.

CHAPTER XXXIV

CHIAROSCURO

"All Truth is a Shadow except the last. But every Truth is Substance in its own place though it be but a Shadow in another place. And the Shadow is a true Shadow as the Substance is a true Substance."

ISAAC PENNINGTON.

(i) SUNLIGHT AND MOONLIGHT

IN our interpretation of man and nature we are fast passing from the light of the sun, with shadows obscure yet with clear outlines and a vast, distant, visible, and glowing horizon; were we to carry our analysis farther we should find ourselves amidst the fitful, mystic gleams of a cloud-screened moon where shadow and clearness mingle to pass rapidly into the impenetrable darkness beyond.

We should find, in regarding man and nature, (an identity in difference), each as a world complete, that the common conception of the environment ceases to be useful : functions no longer. For nature complete the environment ultimately coincides with the reality environed ; and so with man complete ; while in its supreme significance God is the environment wherein alike man and nature "live and move and have their being."

But for present, partial man (or nature) the environment still has significance ; the environment is then the whole of man complete so far as past, and, in that specialised sense, this partial man is determined by his environment. Likewise for present, partial nature. The form of man or nature (man or nature as empirical) each as a world in itself is conditioned here and now by its own past forms and by these alone.

From the temporal aspect the present of each is determined by its own past—and by this alone.

In this specialised aspect of truth each man complete, spiritual as well as temporal, is a god in isolation in his own

world, shaping his own destiny in his successive incarnations. In this limited and special domain, the speculation of solipsism is valid—that the self only exists—creating its own phenomenal universe ; and here again we find ground, though incomplete, for the conception of an evolving god, and also for the famous Hindu saying " tat tvam asi," (that thou art)—the identification of the self with Brahma.[1]

But though, of the three main powers of a concept, its concrete sense, its rational meaning, its symbolic significance, the symbolic significance may be retained and even become vastly augmented as the concept approaches the utmost limit of its sphere of applicability, quite the reverse is the fate of the other two ; its powers of concrete sense and of rational meaning cease to function and ultimately vanish at the limit.

This truth of language (whatever be the art or science in question) constantly confronts those who pioneer beyond the boundaries explored and known.

So is it in the present instance : we have pushed one aspect of our speculative interpretation to extreme limits, and therefore find that our concepts (such as freedom, determination, and environment) cease to function in respect of concreteness and logical applicability—freedom and determination converge and become indistinguishable, object and its environment coincide ; yet in doing so they may have served to awaken a profound sentiency alike of the majestic destiny of man and of the inscrutability of that destiny to natural science, necessarily operating with finites.

(ii) " OUR ENVIRONMENT IS BONE OF OUR BONE AND FLESH OF OUR FLESH "

Let us then retrace our steps, and try to reconsider the matter from another aspect.

[1] "*aham brahma asmi*" (I am Brahma), the fundamental idea of the Vedanta System (interpreted by Shankara). The impersonal and personal aspects of the Hindu Supreme Being appear respectively to correspond to Deity as super-personal Absolute and to Deity as personal God.

Let us recall that we conceived the worlds of nature and man as mutually interpenetrant and forming environment each to the other, so that each is subject to the forms successively developing in the other ; and thus are produced inter-volutional changes. Then it will be simpler and more in accordance with existing science to confine our main attention in the rest of this disquisition to the commonly accepted scope of this term environment.

But even here once more we shall do well to remember the limitations of theory. For this word " environment," pushed to its limits, on any interpretation whatever of the relations of man and nature, betrays ambiguities and perplexities rivalling those attendant on the use of the word " nature " itself. We can see how this comes about by noting that the direct environment of any living part of man himself is clearly the rest of the man, and, as scientific analysis advances it becomes increasingly difficult, and at length impossible, to distinguish, in last analysis and final synthesis, the organism from the environment. " Our environment is bone of our bone and flesh of our flesh." [1]

> All selves are interpenetrant : ethics wills it and so heredity manifests it. Where and when selves interpenetrate, there and then love and self-sacrifice are one, and justice and mercy embrace.

(iii) INHERENT LIMITS TO PHILOSOPHY

Of set purpose have we introduced, if briefly, these more subtle and comprehensive notions of man and nature in order to suggest, as the background of our subsequent interpretation, the ultimate inscrutability of the All of things. " *Qui embrasse tout, embrasse rien.*" Without the bridle of a profound humility, our fate is that of Ixion ; we would clasp all the Beauty of Truth to our bosom, and find but a dissolving mist. Without order and its limits no world of any kind is possible.

[1] Dr. J. S. Haldane, F.R.S.

To pursue into further refinements the subtle and complex conceptions we have ventured to suggest would not harmonise with the aim we have set ourselves in this essay.

That aim is not the construction of a system of philosophy of man and nature that shall be rigorously self-consistent. Such a problem we deem insoluble by man ; nay, fully comprehended, both meaningless and senseless.

The Universe, as here intuited, is such that a rigorously logical account [1] of any part implies a complete comprehension of the Whole ; and what sense or meaning has that phrase in the mouth of man : and yet how humbling its significance !

Our aim is something far short of that. It is to present in simplest form allowed by the character of the problem a synoptic view of the cardinal elements of the constitution of man and nature from which we may decide the values we allot to them and the order of importance of those values in the interpretation and conduct of our lives—in a phrase, from which we may construct a hierarchy of values appropriate to the respective periods in the wonderful life-cycle of every man.

Those who have ridden on the back of logic—good and indispensable horse though it is—into the deeper waters of the infinite ocean of being and becoming have all, we believe,

[1] Nevertheless in irresistible obedience to the laws of formal logic, so far evolved, every man as natural creature strives automatically to satisfy those laws ; yet as supernatural creator (*l'homme passe infiniment l'homme*, Pascal reminds us) he also continually transcends those same laws evolved in, and by, man himself. By his creativity man forms the new : by his obedience he links it to the old. Neither end, then, nor limit is there to the measure of logical accuracy achievable by man, the thinker : and (again following Pascal) systems of philosophy are works of art, but works of art only, each with its characteristic perfections that stamp it as an image of the Universe, and with its characteristic imperfections that stamp it as an image only. "*Nie kann der Mensch, wieviel er auch vollende, wie kühn er sei, sich zeigen als ein Ganzes, Und was er ausführt, gleicht es nicht am Ende Zerstreuten Blumen eines grossen Kranzes?*" Thus explained, in the lines of Platen (1796–1835), the famous novelist Thomas Mann (born 1875), why his works, designed for a small compass, ultimately expanded into massive form—yet still appeared to himself fragmentary and unsatisfying. Substantially similar was the saying of the great St. Thomas of Aquinas in describing his vision as he lay dying. See also Chap. IX, p. 94, fn. 2.

been compelled at long last to realise with an inextinguishable conviction of humility that, unless they curb at some point the urge of logical passion, their philosophy grows too subtle, refined, and complex for the ready acceptance and guidance of their fellow-man, and even becomes offensive at length to their own deep instincts of art.

It is here that every European philosopher may learn a vital lesson for his craft from the superiority over our Western tongues of such written plastic languages as the Chinese[1] for the expression of amplitude of view through the influence of suggestion rather than through the precision of affirmation, and its inseparable twin, negation ; *omnis definitio est negatio.*

Our European philosophies, as they gain in the power of logical precision and formal consistency so do they tend to lose those still mightier forces of persuasion, beauty, and inspiration that guide men when the language of interpretation moves in the dimmer suggestive atmosphere of the great traditional faiths that have already endured for centuries and even millennia and will doubtless enjoy an equal future of inspiration for the feeble and halting steps of every man in the presence of the inscrutable All.

At this point, therefore, when our logical pursuit begins to sacrifice the wider truth of intuition[2] to the narrower truth of consistency, we shall call a halt and content ourselves with a simpler presentation of categories in terms of great traditional concepts, and avoid recourse to neologisms save on those occasions when a new word is unavoidable for the expression of a new relation.

Above all must we, reader and author himself, as philosophers, remember that all definitions, with their sharp delimitations, are but approximations to the truth of the whole ; they must not be pushed to extremes ; common sense must guide their procedure.

[1] See *Mencius, On the Mind*, by L. A. Richards (Kegan Paul, 1932). I regret not to have alighted on this original study until my own work was finished.

[2] Pascal's "l'esprit de finesse."

Particularly is this warning salutary for us in those cases such as the present, where spatial diagrams are utilised to represent relations. We may therefore be pardoned for substantially repeating here the point that, on these spatial diagrams, we necessarily mark off by apparently clear and discrete boundaries things in their essence continuous and even interpenetrant. Thus we shall speak of, and delimit by spatial arrangement, such concepts as (say) organism, function, and environment. We must realise, however, that only the first stage of approach to the incomprehensible whole fact and truth is covered by such spatial devices.[1]

And the difficulty is even greater ; for spatial considerations of some kind necessarily enter into any analytical arrangement whatsoever, the words on a page, the very words we utter, the images of those words in reflection,—all, it is clear, have spatial qualities and relations.

We have seen in fact that a metaphysic may be founded on the hypothesis of the spatio-temporal form of all reality.

Consider again the triad, feeling, intelligence, and sense. For ordinary purposes of philosophy and its application to our daily life, the mental operations corresponding to these words are reasonably distinct.

Yet let the reader (as we urge should be done repeatedly in considering this essay) experiment for himself.

By patient observation and reflection he will, we feel sure, then confirm from his own experience the principle, familiar to students of psychology, that the operations above mentioned (in feeling, intelligence, and sense) in reality all overlap, each with the other two, and are not to be found, in acute observation, in entire isolation from each other. Sense, intelligence, and feeling are, in fact, ever a trinity in unity.

Consider, again, somewhat further that word " sense " itself. Does not the subjective experience of the organism

[1] It is vital to bear the same limitations in mind in the interpretation and application of the corresponding spiritual categories in Book VI. See also footnote on the ethical *nisus* in animals, p. 200.

(oneself say) in contact with its environment fade imperceptibly into the latter and the latter into itself? Let the experiment be tried with the sense of touch: first with two fingers in contact, then with finger and, say, pen; and finally note the daily experience of contact between skin and clothes.

Thus is one thing linked with another; and all things are discovered to be commingled in such intervolvedness that the sharp knife of logic cuts them apart only to find later either that they have vanished or that in the end they are one.

Under these drastic limitations to the exercise of abstract thought we proceed with our analysis and synthesis.

CHAPTER XXXV

"THE KEYS TO ANCIENT AND MODERN PHILOSOPHY"

"THE keys to the ancient philosophy" (of Europe), it has been well said,[1] "is found in a distinction which our language does not enable us accurately to express: viz. between εἶναι and γίγνεσθαι—Seyn and Werden,—between absolute existence and relative phenomena. By unanimous agreement, the whole sphere of things was competed for by these sole claimants; and to adjust their respective rights constituted the great problem of the Hellenic schools. While Zeno and Parmenides put all their faith in the real ontological ground of the universe, and disparaged phenomena except as the manifestation of this, Protagoras made phenomena everything, and denied that they opened a way to any ulterior region; and Plato and Aristotle vindicated, though in different ways, a place for both, and sought to define the relation between them. But, under every variety of doctrine, this two-fold distribution—into that which *ever is*[2] and that which *transiently appears*,[2]—was assumed as exhaustive and ultimate."

On the other hand, the same authority states[1]: "The key to the modern philosophy is found in quite a different distinction, viz. that between the subjective and objective,—between the mind, as constituted seat and principle of thought, and the scene or data assigned it to think."

Though requiring some qualification in view of the development of evolutionary theory and of the metaphysics of the

[1] In that admirable old book (Part II, pp. 1 and 2), Dr. Martineau's *Types of Ethical Theory* (3rd ed., 1891: Oxford, Clarendon Press). On Spinoza, however, we think (as Professor Hallett has convincingly shown in his *Aeternitas*) that Martineau missed the main purport of that illustrious thinker.

[2] νοούμενον and φαινόμενον, or, Anglicised, noümenon and phenomenon.

Absolute, the distinction above drawn between ancient philosophy and modern is still substantially true. No adequate interpretation of the fact can, of course, be given save by regarding it as a part of the whole history of civilisation and culture ; yet were one confined to a single historical line of interpretation, perhaps the most satisfying and fruitful would be discovered in the light of the rich development of the concept of " personality "[1] between ancient and modern times.

With this theme we have dealt later, though in the main by implication, through the lofty position our metaphysic assigns to " personality."

But whatever may be the true interpretation, having regard to the long separation of the ancient and modern keys of the universe by some schools of thought and their embarrassing confusion by others, it seems desirable to investigate anew the relations between the cardinal elements of the " objective and subjective " on the one hand and those of " phenomenon and

[1] Highly impressive and distinctly significant of the evolutional trend of the concept of " personality " towards the definition we have ventured to elaborate in our text is the following use of it by a Prime Minister of our native land :

" . . . the ideal that everybody who was able to do so should possess his own house, in precisely the same way as he possessed his hat and his clothes, was a great ideal. It was the idea of personality that had grown through many fluctuating generations and centuries—a demand that one's fireplace, walls and outer gates should not be alien ; the idea, beginning first as a somewhat dim conception, a feeling rather than a logic, that a man's house was part of his own personality ; that when he went in he was himself, and that when he left for good he would leave his own ghost behind him. It was the idea that houses had a personality of their own, given them by the people who lived there, the thoughts that had been thought, and the work that had been done there. It was an idea which not only possessed the somewhat mystical and impractical heads of Prime Ministers, but was worthy of consideration and nurture on the part of those whose proof of practicability was that they had never tried to see anything beyond the extent of their noses. Here was the building society's moral foundation, its spiritual existence—its ability to provide that essential extension of personality which included home " (Mr. MacDonald's tribute to the building societies: *The Times*, 19th March, 1932).

noümenon " or, equivalently to the latter pair in the nomenclature here adopted, " form and spirit " on the other.

To this end, it is essential at the outset both to distinguish the pair of correlative terms, " form and spirit " from the pair of correlative terms, " objective and subjective," and also to note the fields of their co-operation. The following diagrams serve both purposes.

Confusion between these pairs of concepts, or their unhappy divorce, has been, perhaps, the unsuspected cause of more perplexity and more crude speculation than any other single cause of error in the history of philosophy.

I would therefore invite the reader to pause awhile, examine his mind upon the matter, and then proceed with the following diagrams and illustrations :

FORM	SPIRIT
OBJECTIVE	
SUBJECTIVE	

DIAGRAM 5

Objective Form	Objective Spirit
Subjective Form	Subjective Spirit

DIAGRAM 6

Let us select illustrative examples of their scope.

Thus, form may be objective as one tooth differs from another tooth ; and the description of their forms will vary as between dentist and patient, or, of course, to a less degree, with any two observers.

Form may be subjective, as one toothache differs from another toothache.

Spirit may be objective as the beauty of a cathedral ; and the description of that beauty will vary as between the architect and a spectator, and, of course, to a less degree, with any two spectators.

Spirit may be subjective as the beauty of the design of the cathedral in the mind of the architect.

Space itself is the objective form of time, and time itself is the subjective form of space. The discrete, spatio-temporal, unique units, finite though large in number, of which nature is deemed by mathematical science composed, are themselves forms of which the spatial element is the objective aspect and the temporal element the subjective.

> And just as mechanics is the natural science of the combinations of these spatio-temporal units, as objective, so is psycho-mechanics[1] the corresponding natural science of these spatio-temporal units as subjective. The " laws " of either science throw light upon the " laws " of the other ; and the ideal is the discovery of a one-to-one correspondence, in concrete detail, in the study of natural phenomena between mechanics and psycho-mechanics, each of which has its static and dynamic aspects.
>
> Psycho-statics, therefore, postulates psychic states or phenomena as consisting of discrete elements subject to separation and fusion without loss of individual identity ; and psycho-dynamics has the like analogy with dynamics.

Turning to things spiritual : Beauty, truth, and goodness : ugliness, error, and evil : are spiritual, any one of which may be either subjective or objective. That these express themselves in spatio-temporal forms (objective-subjective phenomena), is not a denial of their spirituality, but a condition of their realisation. For everything real is spirit and has form. Spirit alone, and form alone, are abstractions from reality.

[1] A branch of psychology better known as Experimental psychology.

BOOK IV

PSYCHE

CHAPTER XXXVI

IRREDUCIBLE TYPES OF OBJECTIVE AND SUBJECTIVE EXPERIENCE

" Space is thought's, and the wonders thereof, and
the secret of space ;
Is thought not more than the thunders and lightnings ?
shall thought give place ?
Time, father of life, and more great than life
it begat and began,
Earth's keeper and heaven's and their fate, lives,
thinks and hath substance in man." [1]

SWINBURNE.

LET us now apply the primal duality in unity of the subjective and the objective to our three cardinal empirical categories—mechanisms, organisms, and humanisms—where by empirical is meant spatio-temporal, or natural in the sense of *natura naturata*.

Note that things natural are not in space-times : nor are space-times in them ; but things natural coincide with space-times, on the supposition previously postulated for the mathematical interpretation of Nature as *natura naturata*.

Implicit in the dis-symmetry of our frontispiece, this view of space and time harmonises with the principle of " cosmic dis-symmetry " reached, after life-long experiment and profound meditation, by that epoch-making thinker [2] " who revealed things kept secret from the foundations of the world."

[1] This quotation from Swinburne is borrowed, with apologies, from Dr. Dingle's *Relativity*.

[2] *Pasteur*, by R. Vallery-Radot, p. 24 ; Paris, Fischenbacher, 1922. See also pp. 223–225 of our essay.

Anticipating the cosmology of later chapters, we interpret the empirical will to symmetry of dis-symmetrical (and thus inchoate) nature as the spatio-temporal form of its corresponding spiritual will to wholeness and completion in Eternity.

The crystalline structure embodied in mechanisms, the sexual structure incarnated in organisms, the social structure incorporated in humanisms, are expressions of this spatio-temporal *nisus* (will) of nature.

Dis-symmetry is waking, movement, and creation ; symmetry is sleeping, rest, and re-creation.

All such cosmological speculations are but mirrors, reflecting a few facets of the myriad-faced countenance of Truth. Science cannot harmonise them into unity in definite form ; though great poetry [1] may manifest their emotional significance, and that also is truth, satisfying the infinitely varied needs of man complete.

Man has thus three irreducible types of objective experience. He has mechanical experience of objects, alike in respect of nature and also of his own body. He has organic experience of objects, alike in respect of nature and also of his own body. And he has human experience of objects, alike in respect of nature and also of his own body. Diagram 7 shows these.

Similar statements apply to the subjective experiences of man in respect of the psyche of nature, and of his own psyche, each triune as is the body of man and as is the body of nature. Diagram 7 shows these also.

[1] Or any of the fine arts greatly expressed : perhaps with most illuminating and persuasive power through mural paintings, of whose re-birth there is significant evidence ; as witness, among other notable achievements, the recent work of Frank Brangwyn, R.A., in the Great Hall of the R.C.A. Building in the Rockefeller Centre, New York, U.S.A., " designed to show the three great periods in man's conquest of the physical world and to suggest the nature of his ultimate destiny," as in like spirit were produced the carvings and frescoes of the medieval cathedrals. [See reproductions of three of these four large mural paintings in *The Times*, December 27th, 1933.] Witness, too, the recently finished and inspired mural paintings of Harold Speed in the Williamson Lamplough Memorial Chapel at Wesley House, Cambridge—welcome evidence of a growing faith in Deity as alike " transcendent and immanent."

From the ultimate irreducibility of these six types of experience arise the natural sciences ; and therein each finds its inexhaustible scope, its unchallengeable authority, and its impassable boundaries.[1]

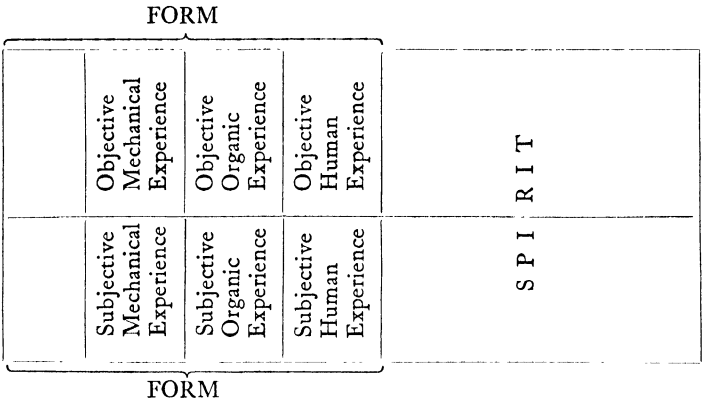


DIAGRAM 7

[1] " Une science avisée reconnaît les limites des explications scientifiques ; elle se sait partielle, incomplète, elle à conscience de baigner dans le mystère. Elle ne prétend pas fermer les fenêtres que l'âme humaine s'efforce d'ouvrir sur l'au-delà. Mais dans son domaine la science veut et doit vouloir être maîtresse et n'admet pas d'autorité supérieure à la sienne." [Adrien Naville, *Classification des sciences*, 1920, p. III. Alcan, Paris.]

CHAPTER XXXVII

THE CLASSIFICATION OF THE NATURAL SCIENCES

AT this point it is convenient to set out the classification of the cardinal sciences of man natural and of nature as *natura naturata*, that is of the cardinal natural sciences (*Naturwissenschaften*, in German).

> Later, by the substitution of the appropriate corresponding and correlative terms, it is easy to see that this identical classification of the cardinal natural sciences, based on our analysis of the constitution of man natural and of *natura naturata*, serves also for the classification of the cardinal spiritual sciences (or *Geisteswissenschaften* in German), of man spiritual and of *natura naturans*.

A careful scrutiny of the accompanying table (shown on p. 199), with the following observations, should serve to confirm its validity as in conformity with the diagrams already presented, and, in particular, with Diagram 7.

The cardinal natural categories of man form a hierarchical series descending from the highest category in his specific and unique humanity, passing through the organic which he shares with all other living creatures, and then through the mechanical, which man, with all living creatures, shares with the rest of nature, finally to reach the spatio-temporal, which, for the purposes of natural science, may be regarded as the primal stuff of all, in its relatively simple differentiation into unique point-instants.

Owing to this, its relative simplicity of structure, it is the legitimate, constant, and ultimate aim of natural science (commonly, and narrowly known in these days simply as " science ") to reduce the phenomena of the higher categories

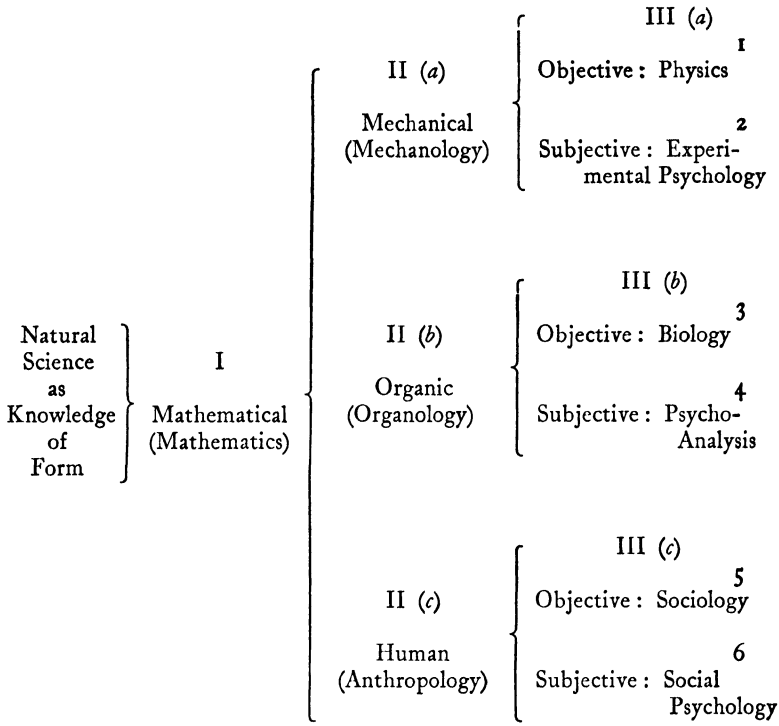


TABLE II: CLASSIFICATION OF THE CARDINAL NATURAL SCIENCES

The numbers 1 *to* 6 *refer to notes on pp.* 203 *et seq.*

of man—and nature too—to the lower categories, until all natural phenomena are explicable in terms of space and time.

The process is co-etaneous with time itself. For, from the standpoint of the spiritual sciences, that which appears to the natural sciences as fullness and completeness of explanation is but the resultant of successive transferences of qualities from the ever-increasing reality of the whole natural man, so that the final scientific *imago* provides, indeed, an increasingly satisfactory explanation of man and nature, yet remains in the end an *imago* only.

The process of natural science, we have said, is endless. History is the unassailable witness, and philosophy affords the ultimate verdict.

From man as human endlessly flow phenomena into man as organic : thence into man as mechanical : and finally from man as mechanical into man as spatio-temporal.

The infinitude of phenomena created by, and in, man as human, produces this perpetual flow and descent of phenomena into the lower categories of man, and, through the intervolution of man in nature and nature in man, the like is true of the higher and lower categories in nature.[1]

> Parenthetically, in view of the sequel to this work, we quote (as accurately as brief notes serve us) from that noble thinker and consummate interpreter of the *Vedanta*, the late Dr. Urquhart.[2]
>
> The identity ideal of religion (the ultimate identity of the individual with the Absolute, and complete absorption therein) encourages implicitly the use of the lower categories of thought. . . . If we deny personality we sink inevitably into the lower categories ; we lose relationship between God and ourselves. . . . " No room is left for the uniqueness or the freedom of personality. We are

[1] Anticipating Book VI—this perpetual flow of human influence may be interpreted, in its spiritual aspect, as pre-figuring an ethical quality (with all the tremendous consequences therein implicit) throughout nature, alike in beings organic, and ultimately in beings material. As simple, yet deeply significant fact, observe the marked *nisus* towards a truly ethical spirit in animals intimately associated with man. Compare in its context that wonderful saying of St. Paul's : " . . . the earnest expectation of the creature waiteth for the manifestation of the sons of God " (Romans viii. 19). Also see Chap. XXXIV (iii), p. 187, fn. 1. See also p. 319, fn. 2, and p. 352 (iv).

[2] In his authoritative work *The Vedanta and Modern Thought* (1928 : Oxford University Press). Dr. Urquhart here follows Ramanuja (with his " diversity in unity ") rather than his great predecessor, Shankara Acharya (with his " illusion of multiplicity "). Dr. Surendranath Dasgupta tells us that so much was Shankara under the influence of Buddhistic thought that he was called a crypto-Buddhist by many important writers who followed him (*Indian Idealism*, p. 56, Cambridge University Press, 1933). Shankara Acharya (" The spiritual teacher Shankara ") flourished about A.D. 800, and Ramanuja about the middle of the twelfth century A.D.

swallowed up in God and when we enquire who *we* are, no answer comes from out the silences of the boundless spaces," our limitation of ourselves to the lower categories has destroyed all the rich concreteness of life and mere space is left. Thus do we leave ourselves, by our own wilful choice, without guidance, and into the swept and empty chamber of life devils may enter in. . . . "The soul of man has not one centre but two : his own eternal entity and God."

Nor does it follow that to know God we must become God ; . . . that "dread point of Intercourse, however mysterious and unfathomable," in which the soul, tending upwards, "holds, is upheld by, God, is still intercourse and not fusion." Subject and object, inherent prerequisites of knowledge, must be given their rights in religion as elsewhere.

Thus it is that the lower cardinal sciences perpetually widen their boundaries at the apparent expense of the higher, adding thereby to the success of their explanation of higher by lower, yet reach no nearer to an achievement of their ideal, ultimate aim. The source of the phenomena remains unexhausted and inexhaustible.

In the following observations on the table, p. 199, the preceding considerations should be borne in mind.

First on the use of the words mechanology, organology, and anthropology, for the respective sciences of man as mechanism, organism, and humanism.

Each word is to be taken as covering both objective and subjective phenomena in their respective fields of description.

In each, man is conceived as determined by the environment in the particular field in question—as a mechanism by his mechanical environment, as an organism by his organic environment, as a humanism by his human environment. Further, each of these (mechanisms, organisms, and humanisms) may be investigated from an objective, or from a subjective, point of view.

Thus, each of the three cardinal natural sciences gives rise to two sub-sciences, objective and subjective respectively, —namely, mechanology to physics with experimental psychology, organology to biology with psycho-analysis, and anthropology [1] to sociology with social psychology.

Each of the six sub-sciences is master in its own special field ; each discovers truth, but not the whole truth.

Each has its own characteristic concepts, theories, and ritual of observational or laboratory technique, which are the more deeply ingrained in the specialist student of any particular science the more familiar he becomes with its objects or subjects, and which, in general, he alone is competent to handle effectively.[2]

At the same time, invaluable assistance would be afforded the specialist by a clear, analytical description of the concepts, theories, and technique evolved in his own particular field of study, along with a statement of the particular assumptions

[1] It will be seen that we have ventured to widen considerably the usual scope of *anthropology* in one direction and to narrow it into greater precision in another. Our resultant delimitation of its objective branch, sociology, appears to be substantially similar to the *Beziehungslehre* of Professors Leopold Wiese (dynamic, in spirit), and Johann Plenge (static, in spirit) with his assistant Josef Pieper. With Plenge the theory is not merely sociological, but also ontological, as expressed in his principle : *The reality of man is as wide as his relations*, (*Unsere Wirklichkeit ist so weit wie unsere Beziehungen*). This view, again, has intimate touch with our own view of personality.

[2] There are long periods (as in Mechanics from the Ptolemaic (earth-centred) to the Copernican, from Copernican (sun-centred) to Newtonian, from Newtonian (world-centred) to Einsteinian (spatio-temporal union in Relativity)) when science advances steadily, if slowly, on postulates commonly accepted. Intervening between old and new are short feverish periods, brilliant and disruptive—such is the present state in Physics with its " determinists " and its " indeterminists," likewise in Biology respecting postulates as to the divisibility or indivisibility of genes, and so forth—when the old postulates become fissiparous, give birth to opposing schools of thought, each of which justifies itself by its interpretation of the known and its prediction of the still unknown, until at length a fuller, new orientation, or synthesis, is won by some creative genius, wherein the schools discover their theories are complementary, not antagonistic. If we may correctly judge future history by its past, we may justly expect the new orientation to endure long.

upon which these are based [1] ; for, as it has been well said, every physics involves its metaphysics, and so does every " ology " its epistemology.[2]

These are important problems for reflective students interested in the historical development of these sciences, and familiar, by personal experience, with their respective present state and difficulties.

Much confusion is present in these days on the above matters, and many illusory and startling philosophical conclusions are drawn by even eminent scientific specialists, unfamiliar with epistemology, from grounds wholly unable to support those conclusions, and due to tacit assumptions illegitimate and foreign to the particular science in question.

When the scientist, unversed in the history of philosophy, is genuinely bewildered he grasps instinctively at the naïve, untested assumptions of the plain man in every one of us ; and his guidance from that point is of no greater value, and has no greater authority, than that of the man in the street.

Further observations on the table, p. 199 follow—wherein the numbers correspond to those in the table.

1. Physics.

This term embraces mechanics, astronomy, physics proper, chemistry, crystallography, and so forth.

2. Experimental Psychology.

This science is the laboratory study of the psychological phenomena of man (or of other living creatures) so

[1] For an admirable contribution thereto see Dr. Ludwik Silberstein, *Causality, A Law of Nature or a Maxim of the Naturalist?* (Macmillan & Co., 1933). We think, however (see his pages 22, etc.), that the orthodox calculus of probabilities, deriving originally from Pascal and Bernoulli, and enlarged by Laplace and Gauss, has a range of application vastly more restricted in space and time than is commonly supposed. Here, however, is not the place to elaborate this view. See also Chap. XXVI, p. 159, fn. 1, and Chap. XXXVIII.

[2] *Epistemology* is used in the modern sense as the theory or science of the methods of knowledge, especially with reference to its limits and validity.

far as they are reducible to mechanological categories—those conceptions appropriate to the description of mechanical processes.

3. Biology.

This term embraces biology proper, and the biological sciences of man as well as of other organisms. It thus includes physiology and the cognate sciences.

Anatomy, in so far as a description of the skeletal forms and features of all parts of the body, is a branch of Mechanology.

Bio-physics and bio-chemistry, in so far as they succeed in reducing biological phenomena to physico-chemical categories, are branches of Physics ; so far as they use non-physical categories, that is to say, organic conceptions, they remain truly biological sciences.

Similar remarks apply to all sciences that overlap neighbouring cardinal sciences. It is in such borderline sciences that the greatest discoveries are made.[1]

4. Psycho-analysis.

This is the branch of Psychology (the natural science of the " psyche ") dealing with the subjective organic aspect of man and nature—man as living being, commensurate with the animal, vegetable, microbic, ultra-microscopic, non-filterable, and other natural organisms.[2]

5 and 6. Sociology and Social Psychology.

These, the two highest natural sciences, deal with man as humanism ; the former objectively, the latter subjectively. They embrace all natural phenomena (objective and subjective) that belong neither to the organic nor to the mechanological sciences.

Sociology is also sometimes used in wider sense to embrace the science of man in all his natural aspects, alike mechanological, organic, and specifically human ; and each of these both objective and subjective.

[1] As by Louis Pasteur.

[2] In a later part of the work we shall see that the roots of disease (viruses, and so forth) have not only an organic and a psychic aspect but also a spiritual (ethical and even æsthetic).

In still wider scope, that great veteran pioneer, Professor Sir Patrick Geddes, uses sociology as the science that brings into synthetic unity all the sciences natural and spiritual.

In actual practice, sociological studies and surveys range in scope between the strictly defined field of sociology appearing in the preceding table and the all-embracing compass wielded by Geddes.

Our own object here has been strictly confined to the theoretical question of the classification of the natural sciences.

That question is important from the point of view of epistemology, but it has little immediate bearing upon the present practical applications of Sociology : these must, in the main, and probably for some considerable time, depend upon the specific and direct object of those applications. The discussion may, however, prove useful, in thus delimiting the science, to those who favour the long-overdue recognition of Sociology by our Royal Society—a recognition that would be a due acknowledgment, by the scientific world, of the massive and magnificent sixty years' researches and civic work of Sir Patrick Geddes [1] and influence most beneficially the science and art of statesmanship.

By reference to numbers 2, 4 and 6, table, p. 199, it will be seen that Psychology is here regarded as the natural science of the " psyche " ; it has thus three branches, human, organic, and mechanical, giving rise respectively to social psychology, psycho-analysis, and experimental psychology. In each of these the psychic phenomena are considered as determinate, and subject to discoverable natural law.

To avoid confusion, it should be added that the above scope of psychology deliberately excludes the spiritual aspects that are sometimes also embraced under the name Psychology, namely the ethical, epistemological, and æsthetic aspects of man. These three last-named sciences, forming the sciences

[1] Unfortunately now deceased. The above was written, and, happily, its contents communicated to my old friend, in 1931.

of spirit (or in German, *Geisteswissenschaften*), are more fitly grouped under the head of Pneumatology [1] (from πνεῦμα, the spirit). In these sciences there enter the conceptions of origins, purposive design, and final causes, necessarily foreign to the natural sciences, which are the sciences of man strictly conceived as a creature determined by the environment, and thus, subject to natural law.

Just as Psychology, the science of the subjective phenomena of man natural, has its three branches, so has the science of the objective phenomena of man natural,—these also being respectively mechanological, organic, and specifically human, giving rise respectively to physics, biology, and sociology. These three sciences may be fitly grouped as *somatology*,[1] (Greek σῶμα).

[1] Two terms used by Jeremy Bentham (1748–1832) with somewhat similar scope in his classification of the sciences, "in the fifth appendix to his *Chrestomathia*, first published in 1816." [Dr. Robert Flint, *Philosophy as Scientia Scientiarum and A History of Classifications of the Sciences*, pp. 162, 163; 1904, William Blackwood and Sons.]

THE objects, or the subjects, of the natural sciences are finite wholes with finite parts between which action and reaction are observable, measurable, and verifiable ; and each of these wholes is itself a part of such another finite whole, and each of the parts is itself such a whole of other finite parts.

This imposes two limits upon the scope of natural science, or, briefly, science.[1]

Science [2] is not concerned with the natural universe (or, briefly, nature) conceived as a whole. Beyond such a universe there is nothing with which it can act and react. Nor, it is equally clear, can science deal with any object or subject, conceived as infinitesimal.

Science can deal only with selected, finite domains, or regions, of the natural universe, however large or small, in fact, those domains or regions may be.

Thus the conclusions or " laws " of science, including any and every principle of conservation, being based upon reciprocal action and reaction, have neither sense, nor meaning, nor significance applied to a universal nature or the natural universe. Nature, thus regarded as a whole,[3] is in no sense a conservative system.

Further, the finite nature dealt with by science implies a finite atom, electron, proton, neutron, or whatever be " the

[1] In a context, as here, where " the natural sciences " are the sciences in question, so that there is no risk of confusion, it is convenient to speak in short, of " science." A similar abbreviation will be useful when dealing with the spiritual sciences (ethics, epistemology, and æsthetics).

[2] Including one of its indispensable tools, the Calculus of Probabilities.

[3] To nature, conceived as an indivisible, infinite whole, number is inadequate. See also Chap. XX, p. 141, fn. 1.

last " minimum unit of science adopted at each stage of its history ; and a finite last unit implies reciprocally a finite natural universe for scientific investigation ; and the converse also holds. In this statement observe that we say the last unit, not the ultimate unit. For an ultimate unit is never attained : nor is it attainable ; scientific history attests the former affirmation, and epistemology, as critique of science, the latter.

The magnitude of this temporarily last unit diminishes invariably with each new and great discovery of the supposedly " ultimate " constitution of the scientific world of nature ; and simultaneously this cosmic world of science proportionately expands.

Nature contains worlds within worlds and worlds beyond worlds *ad infinitum*. Such also is the constitution of man.

Laplace found the greatness of man in the smallness of the basis upon which he measured the heavens.

But science has no basis upon which to measure universal nature ; and has nought to say, must be humbly silent, upon the origin, if origin there be, or the end, if end there be, of the natural universe in space or in time.

The application of the principle of the dissipation of energy,[1] itself a law of finite, conservative systems, to forecast the death of universal nature is, therefore, illegitimate.

And all attempts by (natural) science to construct a cosmogony of the natural universe are inherently absurd.

Likewise futile are scientific explanations of the origin and end of any of the three irreducible worlds of nature, the world of mechanisms, the world of organisms, the world of humanisms, or, in brief, the origin and end of " matter," of " life " and of " man."

Otherwise is the problem from the spiritual standpoint ; for there man has, in absolute ideals, a teleological basis for his interpretation.[2]

[1] The famous Second Law of Thermodynamics.

[2] The further development of this belongs to the proposed sequel to this essay, based upon Part II of the original MS. of *Orpheus and Eurydice*.

For natural science, the infinite, whether in the large or in the small, is the expression, it has been well said, of the essential relativity of all its objects of investigation and is thus inherent in every finite form. The infinite[1] is the ontological pre-supposition of all scientific investigation; but it is not itself an object of such investigation.

It is a fact of experience and a truth of philosophy that there is, in every finite part of the world, an inborn bias from irregularity to regularity, a natural bent from order to disorder, an inherent tendency from chaos to cosmos ; and this tendeney is the simple and direct consequence of the relativity of all forms of reality, (spatio-temporal, mechanical, vital, or human), of the fact that each finite whole is always both part of a greater whole and also a whole of smaller parts : in short, that the finite exists only on an ever-receding background outwards and beyond it and an ever-advancing foreground inwards and within it. In this sense, the natural universe is infinite in both ways, large and small, in each of its irreducible and cardinal worlds, spatio-temporal, mechanical, vital, and human.[2]

Natural science can, however, affirm with justice the beginning and end of all natural forms or systems of forms, that are finite, alike material, vital, and human, alike individual or group ; but the infinite spirit in such forms is beyond its interpretation, and is subject neither to birth nor to death. But this theme belongs to a later chapter.

[1] As eternity, infinitude is the pre-supposition, the ontological condition of time, and of space.

[2] Compare the late J. B. Stallo (Chap. XV) in his *Concepts and Theories of Modern Physics*, The International Scientific Series, vol. xlii: Kegan Paul, Trench, Trübner, & Co. (3rd ed., 1890). Revised and brought up to date, a new edition of this excellent old book would be valuable. On p. 290 Stallo extends to social phenomena a well-known physical principle due to Laplace, *Mécanique Céleste*, Pt. I, Book II, Chap. VII (" Des inégalités séculaires des mouvements célestes "). For our present purpose we have ventured to generalise the principle still further. For political applications, see B. Branford, *The Science of Government* (1919), p. 35.

CHAPTER XXXIX

ENVIRONMENTAL SENSE, FUNCTIONAL INTELLIGENCE, AND BODILY FEELING. SENSED ENVIRONMENT, INTELLIGENT FUNCTIONING, AND FEELING BODY

FROM the standpoint of natural science, namely, determination from without by the environment, consider the body (or soma) of man, and, *pari passu*, the psyche of man, each as so determined.

Consider first the body of man functioning in its environment. Here there are these three aspects :

(*a*) The body in itself ;
(*b*) The body as functioning ;
(*c*) The body in contact with its environment.

In such an analysis, further abstraction is made from reality ; for the whole conception of the body of man functioning in its environment is itself but an abstraction from the conception of the whole man.

Now the body of man, as we have seen, is a synthesis of three cardinal forms—human, organic, and mechanical ; and in each form man's body functions in response to the corresponding environment.

As a mechanism, the body of man functions, or, if you prefer the description, acts, or is an " event " in response to a mechanical environment.

As an organism, the body of man functions in response to an organic environment.

As a humanism, the body of man functions, or, if you prefer the description, behaves in response to a human (social) environment.

All these statements respecting the body may be transformed into corresponding statements respecting the psyche[1] (the subjective correlate of the body), provided we use the appropriate interpretation—subjective phenomena for objective.

Now to the body in itself correspond the subjective phenomena of feeling ; to the body as functioning correspond the subjective phenomena of intelligence ; and to the body with its environment correspond the subjective phenomena of sense.

In other words, the psyche of man in itself is feeling : as functioning it is intelligence : and in response to the environment it is sense.

Moreover, man has these subjective experiences in each of the three cardinal forms of which the psyche is the sentient synthesis—mechanical, organic, and human.

Thus, man has feeling of three kinds—mechanical, organic, and human.

Likewise for intelligence and for sense.

And these three kinds of feeling are irreducible, inasmuch as the three cardinal worlds of the man natural from which they arise are irreducible—the world of matter and energy, the world of life, and the world of humanity.

Likewise are irreducible the three kinds of intelligence, and the three kinds of sense.

Further, from the necessarily deterministic standpoint of science (science of man as a creature of nature), sensed environment determines intelligent function and intelligent function determines feeling body (structure).

Similarly, environmental sense determines functional intelligence and functional intelligence determines bodily feeling.

In deeper analysis, as science deals with the given (" *data* ") and not with origins or ends, all the above statements must

[1] It may aid in the use of this term to think of it as the empirical aspect of the " mind," where " mind " is the whole subjective aspect of man (empirical and spiritual). See diagram 13, p. 338.

be interpreted as *changes* in the phenomenon or thing in question. Thus it is not with bodies, function, and environment, nor with feeling, intelligence, and sense, that science deals ; but with observed changes in each of these, though these changes partake, themselves, of the quality of the thing changing or changed ; so that a change in the body is itself a bodily phenomenon, as a change in feeling is itself feeling.

Equivalently, we may say that science deals with all these phenomena, or things, not absolutely but relatively ; and the relations between two phenomena of the same type, (say two sensations) appear to be themselves of the same type (in the case selected, sensations).

Again, just as body, function, and environment, though distinct for science, are indissoluble in reality, so are feeling, intelligence, and sense, though distinct for science, indissoluble in reality.

Although, from the standpoint of natural science, changes in empirical man arise from the natural environment without, (the somatic environment in changes of man's body and the psychic environment in changes of man's psyche[1]), we shall see later that man reacts from within, alike corporeally (bodily) and psychically, upon his corresponding environments.

There, we shall find, through the creative spirit of man, through his "creative spark," *l'étincelle germinale* as a distinguished French poet, Paul Claudel,[2] has said,

[1] The somatic natural environment cannot, of course, act directly on the psyche of man but only on the body of man and thereby on the psyche ; just as the psyche cannot act directly on the somatic natural environment but only on its own body and thereby on the former.

[2] Also recent translator of that profound poet, Coventry Patmore. As a life-long admirer of the poems of Patmore, I am delighted with the opinion of so competent a critic as Desmond MacCarthy : "(1) that Coventry Patmore is among the greatest religious poets in English literature ; (2) among the subtlest of psychological poets ; and (3) for an exquisite sensuousness first among 'Pre-Raphaelite Poets.'" [*The Sunday Times*: 24th December, 1933: in an appreciative review (headed *Domestic and Mystical Love*) of *Patmore: a Study in Poetry*: by Frederick Page. Oxford University Press.]

feeling deepens and transmutes into *emotion* (moving man out of himself), intelligence deepens and transmutes into reason, and sense deepens and transmutes into imagination, whereby the spirit of man re-creates himself and his environment.

In that daily wonder of man's life, the order of procedure is reversed.

Here, in the inner recesses of life, emotion, spontaneous and free, determines reason, and reason determines imagery.

Simultaneously and objectively, as we shall see later, the spiritual body, spontaneous and free, determines the spiritual function of man, and the spiritual function determines the spiritual environment.

Thereby, alike objectively and subjectively, the spiritual life, thus changed, re-determines the natural man himself and his natural environment, by a procedure the reverse of that described when the environment determines man. For now emotion re-creates feeling, reason re-creates intelligence, imagery re-creates sense ; and feeling re-determines intelligence ; intelligence re-determines sense. Similarly the procedure of the bodily elements is reversed. The body re-determines function and function re-determines the environment. And thus man, in his turn, re-makes nature.

But, again, though distinct for thought, as we shall find, emotion, reason, and imagination are not three things, but one thing; and, likewise, the spiritual body of man, the spiritual function of man, and his spiritual environment are also not three things, but one thing.

But this further theme belongs, in the noble words of German philosophy, to the *Geisteswissenschaften*,[1] not to the *Naturwissenschaften*,[2] to which we must return.

We have now the following additional diagrams in our further analysis of the constitution of man.

[1] The spiritual sciences.

[2] The natural sciences.

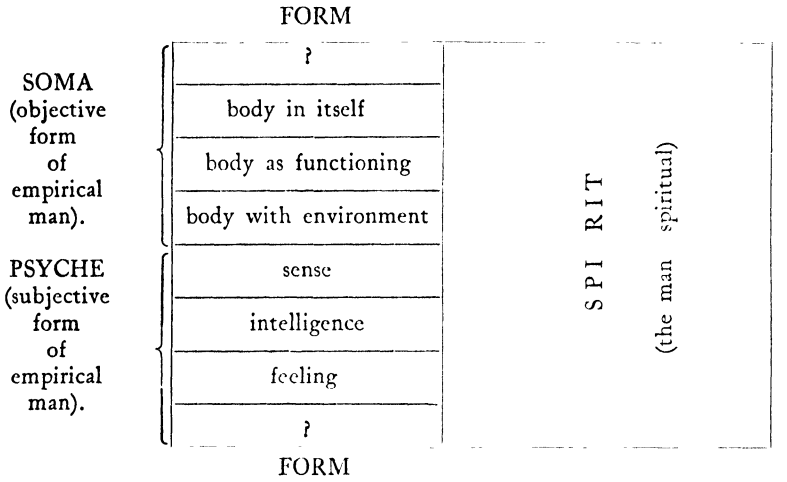


DIAGRAM 8

For the time being we leave merely a note of interrogation in the horizontal spaces at the top and at the bottom.

Sub-dividing the man empirical into its three cardinal categories, mechanisms, organisms, and humanisms (together synthesised as man spatio-temporal) we have Diagram 9, p. 215.

Man as spatio-temporal.

?			
Body as mechanism	Body as organism	Body as humanism	
Body as functioning mechanically	Body as functioning organically	Body as functioning humanly	
Body with its mechanical environment	Body with its organic environment	Body with its human environment	
Mechanical sense	Organic sense	Human sense	SPIRIT
Mechanical intelligence	Organic intelligence	Human intelligence	
Mechanical feeling	Organic feeling	Human feeling	
?			

DIAGRAM 9

CHAPTER XL

AUTOMATISM AND SPONTANEITY: THE FINITE AND THE NON-FINITE

(i) THE FUNDAMENTAL POSITION OF MECHANISM

INASMUCH as there are no objects nor subjects of natural science that have not a mechanical aspect,[1] while there are mechanical objects and subjects that are neither organic nor human, it is clear that mechanism holds a special and fundamental position in the history, the present stage, and the future of the natural sciences, although it is the lowest of the three cardinal natural categories.

Though far from being a machine only, the body of man is itself a mechanism,[2] exquisitely modulated, and subject as such to the laws of all mechanisms—kinematical, thermodynamic, chemical, acoustic, optical, and electro-magnetic.

Any student of physical science who has followed our world-view should at this point find it an interesting theme to consider how far the implication of the following quotation from an eminent astronomer is in harmony with that view, and how far discordant therewith.

" Material[3] particles and events outside us are not directly observed ; they are inferred from the fields (inertial and electro-magnetic) which affect our bodies. But this field

[1] Thus the whole world of man and nature is made subject unto habit.

[2] In more strictly logical terms : man as body *has* a mechanical form. But the context clearly shows when the verb " is " implies " having " and when " being." (Man *has* a mechanical form as body and *is* spirit.)

[3] Professor (now Sir Arthur) Eddington, *Nature*, 25th November, 1922, p. 697. This quotation from date, 1922, instead of more recent works of Eddington, arises from the fact that part of this and other chapters was embodied in an address by the author to The Mathematical Association in 1922.

itself is not directly observed ; it produces disturbances in the bundle of world-lines called a man. Inside the man the disturbance passed from field to matter and matter to field in endless cycle. Who shall say at what phase of the cycle it takes the final plunge into the realm of consciousness and actuality ? "

In our view of the world, with its postulate of mechanical sentiency, some in-de-finite measure of consciousness inheres in every element, being the subjective aspect, the " psyche," of the body of that element, as that " body " is the objective aspect of its " psyche." The " body " in question is the synthesis of the body in itself (particle), the body in action (event), and the body in contact with its mechanical environment.

Every man senses, thinks, and feels the mechanical world because he himself has a similar mechanical world in his own body, which, in ultimate description of natural science, is itself a spatio-temporal phenomenon.

The like is true of man's relation to the world of organisms, and to the world of humans.

The mechanic, and that eminent specialist in mechanics the athlete, have highly developed talents in this mechanical world.

In respect of the athlete in particular, the psychology of movement of man's body as a whole under its own motive power is in its infancy ; and the same is true of the psychic experiences of man's body in rapid acceleration (or retardation) under external motive-power (as in an aeroplane).

The psychic experience of man as athlete may reach in the highly-gifted an enchanting and massive happiness, as its opposite, enforced quietude of the body as a whole, may produce depression ; which, happily, may be largely if not entirely, relieved by fitting movements of the limbs relatively to the body ; and therein lies a source of steady recuperation for the sedentary or the invalid with resolute patience.

(ii) THE ELEMENTAL INDIVIDUAL

From the standpoint of the natural science of psychology, we must, therefore, conceive every elemental mechanism as a unique phenomenon, having sense, intelligence, and feeling ; and, therefore also, as we shall see later, having will (*nisus*), the synthetic unity of those three psychic factors.

Neither psychology subjectively, nor physics objectively, can deal with these elemental mechanisms as such ; these sciences are concerned with general phenomena only ; their objects of investigation are finite groups of these elements in sufficient numbers to permit the application of statistical laws founded on experience and experiment with mathematical probabilities.

Here again, if our world-view is sound, we see the irrelevancy of the great generalisation of physics (such as the principle of the dissipation of energy) to the interpretation of the elemental individual.[1]

The elemental individual we shall call a self.

Nature is composed of these unique selves ; nature is not merely their sum, but their sum and the unity of their sum.

Further, as nature is also in every man, so is in every man all other selves,[2] and not merely the sum of his self and those selves but also their unity in himself. This is the inscrutable mystery of the microcosm and macrocosm, created, sustained, and dissoluble by Deity alone.

(iii) HYLON, BIOTICON, AND HOMUNCULUS

A self that is mechanical, alike objective and subjective, may be termed a *hylon*.[3]

[1] Recall Clerk-Maxwell's speculative "*demons*" that could reverse the consequences of the Second Law of Thermodynamics by their ability to deal "with the individual molecules," the Law having a statistical basis.

[2] "I in you, you in me" (Jesus).

[3] From the ordinary combining form *hyl*—, itself from *hyle*, a transliteration of the Greek ὕλη (the famous philosophical term of Aristotle), the stuff of nature as mechanical form, created by spirit. Aristotle himself oscillates (and is not every self-critical thinker amongst us open to the like charge in dealing

A self that is both mechanical and organic, and each of these both objective and subjective, an indissoluble duality in unity, may be termed a *bioticon*.[1]

A self that is alike mechanical, organic, and human, and each of these both objective and subjective, an indissoluble trinity in unity, may be called a *homunculus*.[2]

From an (empirically) scientific standpoint, hylons, bioticons, and homunculi, are considered as determined by their respective environments ; they are thus, scientifically considered (i.e. from an empirical aspect), automata. Later, we shall see that, in the view of transcendental science, these elemental selves exercise spontaneity also.

(iv) HYLOSPHERE, BIOSPHERE, AND HOMOSPHERE

The field of influence, somatic and psychic, of a hylon may be termed a *hylosphere*, of a bioticon a *biosphere*, and of a homunculus a *homosphere*.

The measure of this influence varies from part to part of the field.

Every hylon, bioticon, and homunculus is constantly producing hylospheres, biospheres, and homospheres respectively. After death, these spheres (or fields), from the stand-

with ultimates ?) in his interpretation ; there are passages in which he identifies form and proximate matter ; e.g. "ἡ ἐσχάτη ὕλη καὶ ἡ μορφὴ ταὐτὸ καὶ ἕν" [*Met.* VII : 6, 1045b, 18f.] In this reading agree the well-known textual authorities on Aristotle's *Metaphysics*, W. Christ, Edition 2, 1895, Teubner, Leipzig, and W. D. Ross, 1924, Oxford Clarendon Press. Aristotle adds the words (Ross's interpretation of the whole passage)—the proximate matter being potentially what the form is actually.

[1] This convenient term was invented (for a closely similar purpose) by the late J. S. Stuart-Glennie, whose highly original and remarkable papers, published as far back as 1906, by my late brother Victor Branford, in *Sociological Papers*, vol. ii (Macmillan & Co., London), are well worthy of serious study.

[2] The old term used by Goethe in *Faust*. *Homunculus* is a far from satisfactory term ; yet it has the advantage of suggesting at once the unlimitedly small and imperceptible. If to this be applied the complementary half of the Pascalian postulate (ultimate coincidence of the infinitely small and the infinitely large in nature) we obtain the fuller conception of the *homunculus* as infinitely small and yet also infinitely large, and so, in each aspect, imperceptible to sense.

point of natural science, may be considered as independent of the elemental selves producing them, and as moving independently thereof.

From a transcendental aspect these spheres are abiding constituents of the complete personality of the self in question.

The biosphere of the bioticon of a particular acorn varies greatly from that of, say, a particular wheat-grain.

The homosphere of the homunculus of Shakespeare will vary enormously from that of an imbecile.

These fields are co-extensive with nature, though in varying measures at different parts, both as produced and after production.

Between birth (re-appearance) and death (dis-appearance) the field of influence of the self is being continuously superimposed on previous fields of that self and forms its total determining karma.

(v) INCREASING INTERPENETRATION OF INDIVIDUALS

Further, every elemental unit that passes through the body of every man (and the like is true of every living creature) receives and gives specially intense influence ; and in that measure partakes, and is the bearer, of his indestructible individuality—his character and personality.

All nature, in its varying measures, has upon it the imprint of each and every individual ; and every individual ultimately and increasingly interpenetrates every other.

Thus there is an unceasing flow of reciprocal influence and character throughout man and nature, whereby their destinies tend ever to approach to a harmonious perfection of sublime unity in variety and of an as yet unimaginable variety in unity.

(vi) METHODOLOGICAL NECESSITY OF ELEMENTAL UNITS

With these non-finite concepts in themselves empirical science is not concerned ; only finite groups of them fall within its scope. Yet are these elemental units, these non-

finite concepts, methodological necessities for science, symbolising that which science ever strives to reach, but never does.[1] Non-finite concepts have the quality both of the infinitely small and the infinitely large, which, in the ultimate Absolute, approach, meet, and coincide.

Having no basis in concrete sense, such concepts are not amenable to imagery [2] ; they are the pre-suppositions of all the sciences.

Natural science describes things finite ; where by things finite is meant things " having a character, or being, completely determinable (either in theory or in fact), either as an object of thought, or as susceptible of complete enumeration or of physical measurement."[3]

(vii) LIMITS OF INTERPRETATION

Here, again, is reached a limit to our interpretation. For these elemental units, as non-finite, do not, judged by a formally logical criterion, belong to natural science ; yet are they necessary thereto : they serve the scientist as does the Pole-star the mariner. Yet do these concepts also symbolise the truths that in the small is no smallest, beyond the large is no largest, an aspect, each, of one and the same truth that the infinitely small and the infinitely large meet and unite, and that this applies to matter (the hylon), to life (the bioticon), and to man (the homunculus).

[1] Truly said Pascal: " *Quelque terme où nous pensions nous attacher et nous affermir, il branle et nous quitte ; et si nous le suivons, il échappe à nos prises, nous glisse et fuit d'une fuite éternelle.*" (*Pensées : op. cit.* p. 29.) Three centuries of scientific history witness to Pascal's accuracy of prediction.

[2] Imagery of the first or second kind [see Chap. L (iv), (v)].

[3] Webster's *New International Dictionary of the English Language*, 1911,—see " finite." My indebtedness to this edition is considerable, particularly for its separate lists of obsolete words (some of which, as alone suitable, I have ventured to revive in preference to coining new words). The fact that the Editor-in-Chief (the late Dr. W. T. Harris) was a distinguished philosophical scholar (if somewhat biased in favour of Hegelianism) doubtless induced him to allot an unusually large space to the satisfaction of the needs of the philosophical public.

Hylons, then, are not physical nor psychical, but meta-physical and meta-psychical concepts ; they are the pre-suppositions of physical science and psychological science. Their inevitability is evidenced by every great and fresh advance in physical science, through molecules, atoms, protons, electrons, photons, neutrons, events, spatio-temporal units, and so forth ; and by every great and fresh advance in psychological science, through material souls, sentient atoms or hylopathisms, mind stuff, spatio-temporal sentient units, and so forth.

Similarly, bioticons are not biological nor psychological concepts, but meta-biological and meta-psychological ; they are the equally necessary pre-suppositions both of biology *quâ* organic, and of psychology *quâ* organic. Of these concepts also the history of these sciences confirms the inevitability : witness the speculations on vitalism, bio-phores,[1] proto-plasm, and so forth in biology, and of atomic sensations, the speculations of psycho-statics, psycho-dynamics, and so forth, in psychology.

Finally, homunculi are not anthropologic concepts, but meta-anthropologic ; they are the indispensable pre-suppositions both of every sociology and of every psychology that postulates the human as an irreducible and ultimate category of natural science. Up to the period of Darwinism that postulate openly held the scientific field ; it is still tacitly implicit therein ; even the Darwinian hypothesis cannot ultimately dispense with it ; for so long as that hypothesis eschews the concept of ends so long must it remain—and wisely—silent upon origins. With god-like responsibility, man alone, of all natural creatures, " looks before and after " in all the irreducible realms of nature, and not obscurely but with piercing eyes. Man alone seeks and finds ends and origins in all the cardinal categories of becoming. The human is a category

[1] The concept coined by the famous German biologist, August Weissmann (1834–1914), for his theory of the continuity and immortality of the germ-plasm, " so long as life lasts on earth."

irreducible to merely mechanical or organic types. Ends and origins are not concepts of natural science ; they are concepts of the sciences of spirit—those sciences that are concerned with the destiny of man, of life, and of matter.

It may, perhaps, be thought by some that at least mathematical science operates with non-finite concepts.

This is true ;[1] but not in the sense in which we use here the term non-finite or infinite, wherein the infinitely large and the infinitely small ultimately meet and co-incide in Eternity.

(viii) SPACE-TIME

Maya [2]

" And the earth was without form, and void."
(*Genesis :* i. 2.)

Our cosmology implies the existence of space-time elements, unique, individualised, constituents of the forms of every self, such that the space-quality is the objective form of the time-quality, and the time-quality is the subjective form of the space-quality.[3]

[1] True, restrictedly in the older infinitesimal calculus (Differential and Integral), and widely, with infinite aggregates or wholes, in the modern branch of *transfinite* numbers of G. Cantor. The latter branch has such close affinities with logic as transcendental science that the two tend to merge into each other. Increasingly illuminating truths may be anticipated from this alliance, though the difficulties confronting investigators in this highly complex study are so exceptionally great and perplexing that grave errors are liable to an even greater extent than in the early days of the infinitesimal calculus. See *Acta Mathematica*: 48: 1: 2, *Sur l'infini*, by Professor D. Hilbert (first published 1925), also *The Open World*, by Dr. Hermann Weyl, Professor of Mathematics at Göttingen, Yale University Press and Oxford University Press, 1933: Weyl considers the initial assumptions of Georg Cantor (in the theory of sets) to have failed of their purpose.

[2] The transcendent energy of the Absolute Being (Vallabacharya, born A.D. 1478, spiritual follower of Ramanuja, A.D. 1050–1137).

[3] The author realised but dimly that this cosmological proposition was implicit in his articulated system of sixty-four categories until he studied the great work of Professor Alexander, O.M., *Space, Time and Deity*. The proposition

Space-time is a thing void and formless, neither chaos nor cosmos nor inchoate, neither real nor unreal, ever potentially divisible into elements by selves, each " the first and last of its identical kind."

Space-time is yet a primordial and categorical condition of reality : neither being nor not-being, yet, when made actual and individualised into unique space-time elements by the selves, subjecting its weavers to the irreducible conditions, implicit in the master-science of mathematics though never to be formulated explicitly thereby,—the conditions predestined in and by THE ABSOLUTE GODHEAD,—under which space-time becomes actual and individualised.

From these space-time elements, each of them uniquely individualised, every self weaves further its own unique series of hierarchical forms, elemental and developmental, without beginning as without end, by its sovran power, its transcendental will,[1] the divinity in every self beneath which no self may penetrate save the Self of all selves, THE ABSOLUTE GODHEAD, ultimate and supreme mystery of mysteries.

(ix) LIFE, MOVEMENT, AND CREATION

DEATH, REST, AND RE-CREATION

In every self, whatsoever may be its kind, as creator, lies infinitude, alike in the small and in the great ; yet not two infinitudes but one : for these extremes, continuous with the finite, and the whole one and indivisible, meet and unite in Deity, the Infinitude of the infinitudes in the All, immanent Itself in every point and part of space and time, yet also transcendent thereto, and to everything giving absolute value, to the small equally with the great. Not insignificant dust is the infinitely small in nature or in man : infinitude in the

involves : (i) the indissolubility of space and time, (ii) the identity of time-order and space-order, (iii) the asymmetry of each order, (iv) and the irreversibility alike of space and of time, each considered from the point of view of natural science.

[1] Here we anticipate Book VI.

small is continuous, equal, and one with infinitude in the great, an affirmation consonant with our completion and wholeness in Eternity, if strange to our partiality and incompleteness here and now.

In and by Deity are reflected these infinitudes (a duality in unity) within us into the respective finitudes of our unique selves, as creatures here and now.

In this union of complementary opposites[1] (of each pair, great with small, an infinite number as are individual beings), in this mysterious junction[2] at its every point and part is the eternal harmony of the Universe.

And through every point and part flows perpetually the recoil, the reflection of these infinitudes, creating thus the everlasting melody of the Universe with its inconceivably composite waves that offer to each and every being its periodical, finite existences, duration in time and extension in space, and its own unique animation of movement.

Thus at every point and part of the Universe is this eternal harmony, the dream-world, the static world of death, and rest, and re-creation, and through every point and part flows the everlasting melody, the waking-world, the dynamic world of life, and movement, and creation. Yet are these two worlds but one[3]; in whose Divine melody is our everlasting activity, in its Divine harmony our eternal rest.

Thus may we dimly apprehend the source of creation, unfathomable, inexhaustible, in the Unmoved Mover,[4] Lover of all beings, by all beings Beloved.[5]

Justly, then, is man constituted. In the comprehension of his finitude lies his humility,[6] perennial seed of reverence and

[1] Pascalian postulate.

[2] Chu Hi (A.D. 1130–1200). See Chap. III, section (xix), fn. 1.

[3] And one with Sleep, the Epicene, brother of Death and sister of Life, a trinity in unity; Sleep, through whom Life and Death pass each into the other. See Chaps. X and XI.

[4] Aristotle and his disciple Dante; also the *Bhagavadgītā*, pp. 88, 91.

[5] St. Augustine, Bishop of Hippo, and his disciple Dante.

[6] "The first lesson of education, and the last, is humility." (Michael Faraday, a Prince of Experimenters in the Realm of Science.)

wonder ; in the apprehension of his infinitude lies his faith, perennial seed of courage and endurance.

(x) MODERN SCIENCE AND ANCIENT MYSTICISM

Natural science, then, envisages the world as composed of clear, finite, well-defined phenomena, whether objective or subjective. To effect this, every natural science enters, in its successive generations, upon a never-ending series of abstractions from the whole in its own special fields. It thus departs farther and ever farther from the richness and fulness of the whole reality and advances into fields of thinner and poorer realities.

The vague, ill-defined, shadows that envelop every part of the whole reality of existence give place periodically in the triumphal march of the natural sciences to more and more brilliantly lighted and delineated objects of thought or observation ; but, under its dry light, the mystery and the miracle, the magical play of the whole, have temporarily vanished until a period emerges when the light fades and the inexhaustible wonder and newness of the universe burst again upon science and upon the civilisation to which it is so indispensable and mighty a servant. At this rhythmical point the endless scientific quest begins again, to become still more mighty and illuminant by the advances already made.

The long story of man's search into the inscrutable confirms the poet and the prophet, the artist and the sage, in their immortal intuition that moonlight and starlight are the truer exemplars of reality as a whole, and thrill us more profoundly with their shadowy lights and lighted shadows than the brilliant sunlight, and the penetrating rays, as of radium, wherein science exhibits to our inquisitive eyes the intellectual skeletons of man and nature in all their marvellously articulated forms.

CHAPTER XLI

WILL AND PERSONALITY

(i) EVERY MAN UNIVERSAL AND UNIQUE

" *Es kann die Spur von meinen Erdetagen*
Nicht in Aeonen untergeh'n." [1]

GOETHE, *Faust*, Part II.

IN the last two diagrams, 8^2 and 9^2, there were inserted two notes of interrogation, an upper and a lower. For what do these stand in the constitution of man ?

The lower, in the subjective part, is the synthesis of those three cardinal elements of psychic experience that we have named, feeling, intelligence, and sense. These fuse into the subjective unity, the empirical, (or natural), will. The will is not a sum ; it is a synthesis, or a sum of the parts integrated into a unity.

The empirical will is thus, in its integrating aspect, analogous to the bracket of mathematics, through which the contents co-alesce into an ordered whole or unity.

In the (empirical) will the psychic contents of man find their unity in an ordered whole.[3]

Apart from the will, the psychic elements of sense, intelligence, and feeling were a chaos of unrelated things : apart from these psychic elements, the will were a vain and empty thing.

In the will its elements find their relatedness : in its elements the will finds its concreteness.

The lower of the two notes of interrogation stands, then, for the will as empirical.

[1] " The traces of my days on earth not countless ages can destroy."
[2] Pp. 214, 215 respectively.
[3] The empirical will is thus the psyche *quâ* synthetic unity.

With the natural will as embracing and integrating sense, intelligence, and feeling, we have reached a new aspect of the " psyche," which has also been defined as the subjective correlate of the soma.

According to one of our fundamental postulates (the identity in difference and the diversity in unity of " soma " and " psyche ") the upper note of interrogation must stand for the objective aspect of the natural or empirical will ; and this is the natural or empirical personality.

Approaching the soma (the extended body) from the side of its own cardinal elements, we see that the empirical, or natural, personality, is also that into which the three corporeal elements,—body in itself, body in function, and body with environment,—fuse in objective unity.

In the personality, body, function, and environment find their relatedness ; in body, function, and environment, the personality finds its concreteness.

"Personality" [1] is a modern conception without adequate equivalent in ancient philosophy. Its wide extension here to man and, by implication, to nature, is made possible only by the vast discoveries of modern science ; and in its turn humanises science and nature.

This empirical personality is thus something vastly wider than the body and its activities as commonly interpreted ; though that interpretation is a valid first approximation to that which personality ultimately signifies.

In the empirical personality are also embraced the whole of every man's natural experience as objective.

It contains, and holds together in individual unity, every word man utters with its indefinitely extended influence

[1] In his famous *Ethics*, Spinoza, I think, uses " *personality* " once only and considers it obscure. This avoidance of the word, in the limited scientific knowledge of his time, manifested his prudence, yet also sharply limited the scope and acceptability of his great system.

Pascal, however, stresses the living personality as against the Cartesian rationalism, deeply influenced though he was by the latter.

in space and time, every look, every movement, his every action or event within the " body " itself or outside that " body," every physiological function thereof, and each of these, whatsoever may be its kind : and every atom [1] (chemical, electric, or what not) he absorbs imprints upon his personality its own character, and, emitted in turn, is impressed for ever with his individuality, with his uniqueness of nature ; every wave of energy likewise leaves its rhythm and receives in turn the ineffaceable colour of his own distinctive form.

All these also contribute to that ever-expanding, ever-developing, mighty thing, a man's empirical personality. By this intervolutional life, every man penetrates even to the heart of all other things ; and yet abides himself unique.

Wonderful as is the apparent finite body here and now with its fleeting activities, more wonderful far is the whole natural personality, embracing, constellating, and objectifying the total experiences of each and every man in his successive incarnations.

In fine, this empirical personality of every man is co-existent with spatial nature, though not co-incident therewith.

Similar is it with the empirical will of man, that is co-existent with temporal nature, though not coincident therewith.

Man is thus co-eval with nature, co-extensive with space, co-etaneous with time.

We shall see later that the whole will has not only this empirical aspect, but also a transcendental ; as automatic, the former is instinctive ; as spontaneous, the latter is intuitive.

Correspondingly, the whole personality has not only its empirical, or instinctive, but also its transcendental, or intuitive, aspect, the two together forming every man's real *dramatis persona*.

[1] " . . . an electron within a living body is different from an electron outside it, by reason of the plan of the body." [See p. 111, *Science and the Modern World*, by Dr. A. N. Whitehead, 1926 Edition, Camb. Univ. Press.]

" My deeds[1] are my children," said that great childless novelist and genius, George Eliot, " and will live for ever."

In whatever way, to whatever degree, each man spends his vitality here and now, he is thereby, either for good or for evil, both fashioning further his own immeasurable personality and simultaneously influencing the immeasurable personalities of every other living being. Hereon rests securely the profound significance of true fame ; there flourish its imperishable roots ; and we wonder not at the arduous efforts men make to achieve a noble name as sign and symbol of a noble personality.

Nor is any repute, from humblest to exalted, " writ in water " ; the smile that greets a passing stranger, the trifling alms of pity, multiplied a hundred-fold by the gracious bow that goes with it as simple tribute to the fallen beggar,—all these acts, blessing equally giver and receiver, become immortal parts of the personality of each.

> " Was once, perchance, a god
> The worm within this clod ? "
> " Yea ! And again may be
> In sempiternity."

" The good men do is " not " buried with their bones," though, with equal justice, " the evil " that they do " lives after them." By the sublime Will of the Absolute Deity everlastingly are conserved the most secret fruits of man in nature and of nature in man.

Similar truths obtain for the subjective, psychic aspect of the empirical will of every man as the counterpart of the empirical personality.

We thus envisage man empirical as a unified personal will and willed personality having an existence that is coetaneous with time amongst the indefinite number of such existences in the natural universe. We do not say that, as empirical, man is eternal ; for the conception of eternity

[1] " The good deed is the finest music in the world : it sings for ever."
VICTOR BRANFORD.

is inapplicable to time's duration, being the ontological condition of time itself.

We may also, from another standpoint of the whole man, conceive man empirical as a psychic personality and personal psyche.

(ii) THE PENUMBRA OF WORDS

The necessary changes being made, we may now apply the above conceptions to each of the three natural categories of man—humanism, organism, and mechanism.

Yet before we take this further analytical step, a few remarks seem desirable.

In the foregoing considerations, we are making abstraction of the natural (or empirical) aspect of the whole man from his spiritual (or transcendental) aspect—of the process by which he becomes from the being that he is. We are conceiving man as a creature determined by his natural environment, by spatio-temporal nature, wherewith man being co-extensive, man forms himself part of his own environment.

His past conduct, in this particular aspect of the whole inscrutable truth, is a determinative element in his present life, here and now. In the famous word of Hindu philosophy, man is subjected to his own *karma*.

Subsequently, we expand this partial truth into a wider —that man and nature are co-equally and co-etaneously responsible for the development of the spatio-temporal universe, though not for its ultimate constitution, not for the ontological presuppositions of its existence and its irreducible categories, not for its absolute origins, nor its absolute ends—those are the inscrutable and sublime prerogative of the Absolute Deity, creating, sustaining,[1] and dissolving the macrocosm in the microcosm and the microcosm in the macrocosm.

Moreover, in diagrammatising into a pattern the further development of our system of philosophy, we have to note that our ordinary conceptions of unity and multi-

[1] Man maintains: Deity sustains. (See p. 238 fn.).

plicity, integration and dis-integration, synthesis and analysis, specialising and generalising, parts of the whole and the whole of its parts—all those many conceptions, indeed, related to that which the distinguished philosopher-statesman[1] has named "holism"[2]—must undergo an enlarged transformation wherein we have (as thinking on things ultimate, parts and wholes in-de-finite and even infinitesimal and infinite) to use such great traditional words with a vast penumbra surrounding the central sun of their sense, meaning, and significance. Only thus can faith in a cosmos, and in man's high destiny therein, be born in humility and safety,[3] and grow with confidence and courage.

(iii) DIAGRAM OF NATURAL WILL AND NATURAL PERSONALITY

Provided we have felt vividly the truth of the considerations just presented, and seek not for a measure of precision irrelevant and unsuitable to the context, we should not find difficult the proper interpretation of the succeeding diagram.

We purposely abbreviate at obvious places ; thus, body, function, and environment, also feeling, intelligence, and sense, are respectively to be repeated horizontally for the dashes ; and mechanical, organic, and human, are respectively to be repeated vertically for the dots.

The diagram is particularly designed to exhibit the three aspects of the natural personality and the corresponding three aspects of the natural will, each in terms of the three cardinal and irreducible worlds of matter and energy,[4] of organisms, and of humanisms.

[1] General Smuts.

[2] See also B. Branford, *A New Chapter in the Science of Government*, p. 83 (on "the inherent ambiguity of language").

[3] The profound interpenetration of words, with its illustrative relevancy to certain principles and postulates in our essay, is well seen in the etymological congeners of this word "safety": Latin *salus* (health), Sanskrit *sarva* (all, complete), salvation, salute, sage, solid.

[4] Sometimes this descriptive phrase is used instead of mechanisms; the word matter therein has a widely generic scope, embracing mass, electrons, and so forth.

personality (natural)	mechanical personality	organic personality	human personality
body	· —	· —	· —
function	· —	· —	· —
environment	· —	· —	· —
sense	· —	· —	· —
intelligence	· —	· —	· —
feeling	· —	· —	· —
will (natural)	mechanical will	organic will	human will

SPIRIT

DIAGRAM 10

(iv) THE SIX CARDINAL OCCUPATIONS OF MAN

In the observations upon this diagram to follow, certain points already dealt with in previous chapters will purposely be given further consideration, partly in view of the complexity of the theme and partly to make prominent the vital importance of the correlative concepts, personality and will.[1]

Every man has experience in each of these categories, but in varying measures of skill.

A mechanic, or other type of engineer, is specially gifted in his specifically mechanical constitution, alike corporeal and psychic ; a peasant in his specifically organic constitution ; a politician, a lawyer, (or, say a hostess) in their specifically human constitution.

In respect of the subjective aspect, we may say that the sense, intelligence, and feeling, and therefore the natural will uniting them, of a mechanic are superior in the world of things mechanical, of a peasant in the world of things specifically organic, and of a politician in the world of things specifically human.

Each, mechanic, peasant, and politician, is most at home in his respective type of natural world, and least at home in the worlds of the others. Where their respective functions are confused, chaos enters.

[1] The reader may here inquire what meaning can be given to the will of (say) an electron, or, more fundamentally, of a "hylon" (see p. 218). The psychology of a hylon in itself is not here in question ; but of a hylon as a constituent of man whose will (*quâ* natural) is the synthesis of the wills of the individual hylons, bioticons, and homunculi, composing his personality. The psychology of a hylon in itself can however be thematised and interpreted in connection with its spiritual (here, super-mechanical or æsthetic) being. But that is the subject of later chapters. The action of a hylon in itself (*quâ* individual) is thus indeterminate and not subject to the consideration of the natural sciences ; though the statistical average of a group of hylons is proper to them. Similar remarks apply to bioticons and homunculi.

Consider in this connection the observations on heredity in the interesting address by Lord Rothschild, F.R.S., when presiding over the Section of Zoology, British Association Meeting, 1932.

This essay is not directly concerned with the applications of its theme—the constitution of man. With the economico-political consequences we have dealt elsewhere[1]; and with its applications in the life of man as a whole the proposed sequel to this essay is concerned.

It will, however, serve to elucidate further the main theme to observe that the three cardinal natural categories of man's constitution determine the three cardinal types of his natural occupations[2] (or crafts); and similarly the three corresponding cardinal spiritual categories of man's constitution determine the three cardinal types of his spiritual occupations[2] (vocations or arts).

In the further observations on this matter we draw upon a later chapter for the sake of completing the occupational picture; but doubtless many readers will recognise at once the relevancy of the illustration.

By *cardinal* occupations we mean those—six in number—upon which all the others turn and from which they derive.

The six cardinal occupations of man, then, are those counterparts, in objective (or outward) activity, of his six corresponding subjective (or inward) activities.

We may classify the facts thus:

As a mechanism, each man has mechanical intelligence; and, as having mechanical intelligence, man is potentially a mechanic.[3]

As an organism, each man has organic intelligence; and, as having organic intelligence, man is potentially a cultivator.

As a humanism (a natural being *quâ* human), man has human intelligence; and, as having human intelligence,

[1] See *A New Chapter in the Science of Government.*

[2] See *Janus and Vesta*, Chap. XII, and also Chap. X.

[3] We mean in the great outside world of nature (the macrocosm). As microcosm each is not merely potential, but actual mechanic, of marvellous capacity *in the building up of his own mechanical structure* (automatically or otherwise), of which all outside invention whatsoever is but an imperfect mechanical model.

man is potentially a politician (folk-craftsman or folk-craftswoman).[1]

So far we have but developed the implication of the famous Aristotelian definition of man as "*a political animal*"; for, inasmuch as every animal is also a mechanical structure, man is clearly a *political, living mechanism.*

Such are the three cardinal *natural* occupations of man.

We pass to the three corresponding *spiritual* occupations (or, *vocations* as we should prefer, by way of contrast, to name them).

Machinery is literally the materialisation of imaginative design : hence each man is also potentially an artist.

Organisms are the incorporation (incarnation) of ideas : hence each man is also potentially an educator.

Finally, humanisms are the realisation of ideals : hence each man is also potentially a prophet (or priest).

Thus we obtain these two tables :

THE THREE WORLDS OF NATURE

Outward corresponding craft.	Mechanical craft (industry).	Organic craft (agriculture etc.).	Folkcraft (economical, political, legal, diplomatic, domestic, etc., activities *quá* administrative).
Types of natural intelligence (natural sciences).	Mechanology.	Biology.	Sociology.

SYNOPTIC TABLE III, OF THE CARDINAL OCCUPATIONS OF MAN

[1] It will be found useful to sound political thinking constantly to introduce these two complementary categories.

THE THREE WORLDS OF SPIRIT

Outward corresponding art.	Fine Art.	Education.	Church.
Types of spiritual intelligence (spiritual truth).	Æsthetic.	Logic.	Ethic

SYNOPTIC TABLE IV, OF THE CARDINAL OCCUPATIONS OF MAN

Observe that there are *three*, and only three, types of natural intelligence, and also *three*, and only three, types of spiritual intelligence ; and these, in varying proportions, we use in every act of life.

Further, just as natural colours are decomposable into the primary colours, so is every natural occupation decomposable into the cardinal natural occupations. Thus, a vegetable gardener, in using tools, exercises mechanical craft ; but *quâ* gardener, he exercises organic craft ; and *quâ* livelihood, he exercises folk craft (in the sale of his skill). But we are clearly justified, for practical purposes, in classifying the vegetable gardener under the *organic* group, inasmuch as the dominant note of his activity is derived from the organic world, whose laws he must know and obey, and, in so far as he knows them, he possesses organic science (biology). A horticulturist adds to the above categories those of fine art and æsthetics.

(v) MEMORY

Let us return to Diagram 10,[1] throwing into prominence " personality " and " will." In its interpretation, note that

[1] P. 233.

its primary significance is in application to the present body and its psyche : but its ulterior significance (not ultimate, for that is transcendental) implies an application to all the spatio-temporal experience of the individual up to the here-now, and also inclusive thereof ; not only his experience in the present body, but also throughout all previous incarnations.[1]

The possibility of the retention of such experience is inherent in memory, inclusive of ancestral memory.

In ordinary language we say that a man has memory of the past : this is a convenient and even inevitable mode of description. For the philosophy here presented, however, such descriptions are but rough pictures of the wider truth that the memory of his past is in every man and forms an essential constituent of that man. Without such memory the embryonic seed of man is but an empty spirit, a ghost, nothing real.

The skill to build his body from conception, to maintain[2] it in existence, to profit by all in-de-finite past experience, individual and by interpenetration—all this is based upon such memory.

The degree of " consciousness " in such memory varies from the infinitesimal deeps of what is sometimes called the " sub-conscious " as the so-called automatic flicker of an eyelid, through all ranges up to, and even far beyond, the electrifying thrill of highly illuminated ecstasy of the lover, the hero, the saint, or the anguish of bereavement that burns or petrifies, until Time, as instrument of mercy flowing from Eternal Love, has done its work of healing and made us whole.

What, then, is the " un-conscious " ?

A state of experience is unconscious in a relative sense only. A low degree of consciousness may be reasonably called " unconscious," and is so called, relatively to a much higher degree. The above illustration affords such an instance.

[1] See also the noble and illuminating treatment of a similar theme in Vol. II of McTaggart's *The Nature of Existence*.

[2] To *sustain* is the prerogative of Deity. (See p. 231.)

Unconsciousness that is not relative, but absolute, has no place in our philosophy ; and, owing to the excessive ambiguity of the common term " unconscious " and of its derivatives, we shall, so far as feasible, replace it and them respectively in the present essay by the term " sub-conscious " and by its derivatives. Thus a feeling of slight uneasiness is sub-conscious, and may receive normally little or no " attention " (tendency of the will towards it as a specific object) ; while an emotion of ecstasy or agony may move us to prodigious activities, or, by its unbearable intensity, finally reduce us to a state of the lowest sub-consciousness, as in catalepsy, an image of death itself, so nigh each, in the vast circle of consciousness, are the extreme deeps and the extreme heights.

The further investigation of this highly complex matter would lead to a re-introduction of the subtleties of the hyper-consciousness with which we have already dealt. In such questions, we should be approaching worlds within worlds, of which the consciousness and hyper-consciousness of dream-life, or such experiences as obtain in the Hindu practices of Yoga, give us not uncertain clues ; for in such experiences the duality of subjective and objective still holds, yet in a world within the common world, though also beyond it,—obscure image and analogue of the Divinity immanent in, yet transcending, us.

It will be gathered, then, that for us all things real in nature are animated, each with its own " psyche " or states of consciousness, as is great nature herself : not man alone, simultaneously human, organic, and mechanical : not living things alone, simultaneously organic and mechanical ; but even every mechanism itself, from electron to sun, star, and nebula, has each its own unique psyche, with its states of " consciousness."

(vi) ALL SCIENCE IS FUNDAMENTALLY ANTHROPOMORPHIC

The central part in these natural categories played by the soma (extended body) and the psyche (the enduring soul)

of Man is due to the two inter-dependent facts : (1) that in Man alone are all three cardinal natural forms united, a trinity in unity, and (2) that in Man are the potential and prophetic models of all things.

In addition to previous examples of this latter statement, note the thermo-static system for the maintenance of the bodily temperature, the sanitary system for its purification, of which the ciliary apparatus, with its myriads of cells, in the nasal cavity trachea and bronchial tubes, cleansing from dust and mucus, provides an excellent model of rhythmical screw-motion continuing, under proper conditions, for days after death, the wonderfully organised and administered productive, distributive, and consumptive systems for the feeding of the body (a marvellous model for the economico-political science and art of government), and, intimately connected with all these, the amazing, all-embracing complexity of what a famous chemist[1] has called the perfect chemical laboratory in this body of man.

> The marvellous complexity of machinery and organisms at the disposal of man within his own body may be crudely imagined by consideration of the fact that in the brain alone are more than a thousand million nerve cells, in each of these cells millions of millions of atoms, and again in each of those atoms prodigiously small electrical worlds in perpetual movement : nor ends the story even there.

Though scarcely one-third of the chemical elements have so far been discovered in the body of man, the history of this branch of bio-chemistry supports the conjecture, latent in our fundamental postulates, that ultimately all the elements will be found therein.

Summing up the scientific aspect of man natural, we may regard mathematical knowledge, in widest scope, as the unifying basis and the morphology of the natural sciences, both objective and subjective ; but such mathematical know-

[1] Dumas, Jean Baptiste André (1800–1884), beloved teacher of Pasteur.

ledge is itself a part of the Science of Man, so that, in the end, as Hume and other great philosophers saw, all science is fundamentally anthropomorphic.[1]

All our knowledge begins with Man ; and to Man it ultimately returns.

[1] Compare some acute reflections by W. Force Stead in *Uriel*, pp. xiii, xiv (Cobden-Sanderson, 1933).

BOOK V

THE MISSION OF GENIUS

" Some one wave
Out of the multitudinous mass extends
The empire of the whole."

CHAPTER XLII

THE FUNDAMENTAL RIDDLES OF SCIENCE

ARE there more than the following six fundamental problems, or questions, that we can justly put to science concerning man ?

For my part, I find that all the general questions that awake my profoundest interest depend upon one or more of these half-dozen problems.

How far that is true of my fellow-beings it is for them to weigh and decide.

1. WHAT is man ?
2. How does man behave ?
3. WHEN does man cease to evolve after birth and begin to involute towards death ; or, equivalently, WHEN during his life-cycle does man reach his maximum manifest, natural strength, corporeal and psychic ? WHEN begins " the folding of the carpet of desire " ? [1]
4. WHY behaves man as he does ; or, equivalently WHEREFORE (or WHEREUNTO) is man born ?
5. WHENCE comes man before conception in the embryo ?
6. WHITHER goes man after death ?

In general, the statements of these six problems, or questions, will be abbreviated respectively into the six single words : WHAT : HOW : WHEN : WHY : WHENCE : WHITHER.

I would invite everyman (and by that word be it ever clearly understood, everywoman) to meditate from time to

[1] Jami's *Salaman and Absal* (translation by FitzGerald).

time in silence, and with open heart, upon these six questions.[1]

There will surely come surprising revelations of our selves, alike of our littleness and of our greatness, and of our relations to this great world whereinto we came, wherein we live, whereof we are, and wherefrom we shall one day go.

Further, the interpretation of the life of man upon which I have herein ventured to embark will meet with more adequate criticism and evaluation, and be haply found more useful, if the reader will exert himself to apply his own powers of courageous and patient meditation upon one or more of the fundamental questions above suggested.

In the proposed sequel to this work we shall find weighty ground for the opinion that, if we remember our fundamental postulate of the correspondence of man and nature, the six preceding cardinal questions have, respectively, intimate bearings upon the six cardinal periods in one of the finite life-cycles of everyman,—those periods being childhood, adolescence, maturity, midlife, senescence, and eld.

Thus, does not the question " What " characterise the naming and classifying instinct of the eager child, born into a world of that wonder pronounced by Aristotle to be the root of all science ? " *What*soever Adam called every living creature, that was the ' name thereof.' "

And does not the question " How " equally symbolise the adaptable adolescent, with sensitively imitative instinct, moulded by custom and tradition, awaking to the lure of sex, " the glass of fashion and the mould of form " ?

And then the natural man mature, with his ambition for success, therein realising his strength and his limitations together, ever waiting for that which never comes to the man natural—the striking of that hour " When " his worldly ambition shall be fulfilled.

[1] Life and death are indissoluble twins ; so let the East add unto its science of death the science of life, and let the West add unto its science of life the science of death.

Never : " Zum Augenblicke dürft 'ich sagen :
Verweile doch ! du bist so schön ! " [1]

But ever : " Im Weiterschreiten find' er Qual und Glück,
Er, unbefriedigt jeden Augenblick." [2]

And midlife, the first of the dominantly spiritual periods of our cycle, the man spiritually converted, seeking wearily the true motives and objects of his mysterious life and heavy labours ? Is not its question " Whereunto " ?

Then the senescent, with his piercing, backward gaze into origins, the intriguing past,—" Whence " am I come hither ?

And so at long last to " Whither," the yearning look of noble eld into the dim future, with his dreams outmatching the visions of his youth.

And with this, the last of the six riddles of life, we are brought back to the first, in uniquely individual and personal form : " Who am I ? " [3]

* * *

This fifth Book I propose to devote, not to specific answers to the above six questions, but to a further consideration of the general grounds upon which, as it seems to me, such answers, valid and verifiable, must rest.

[1] To such a moment I would cry :
Tarry awhile ! Thou art so fair !
GOETHE, *Faust*, Pt. II.

[2] In onward-striding let him find his bale and bliss,
Him, discontented every moment.
GOETHE, *Faust*, Pt. II.

[3] The one other possible question, Where ?, resolves into Whence ? and Whither ? and What ?

CHAPTER XLIII

THE SEAT OF AUTHORITY

(i) WHAT IS MAN?

THIS first question is, in essence, merely an extension of the " What ? " of the racial childhood.

Can we find an ordered classification and fitting descriptive names for the chief features in man's constitution that link him satisfactorily to the great world wherein he is living ? What, in fine, is the constitution of this being known as man ?

Part of the answer has been given in the preceding Book,—the natural science of man, descriptive of the constitution of man as a natural creature, or created being. The complementary part is reserved for Book VI dealing with man as a spiritual creator, or creative spirit.

In our description of the natural constitution of man, the function of the natural sciences has been brought into the court of enquiry and their evidence upon the question examined —evidence in these times commonly accepted as impartial.

(ii) IS " SCIENCE " IMPARTIAL ?

The claim raised by that last word suggests a further consideration. Is it, indeed, possible for science to be genuinely impartial, as scientists frequently claim ; and if so, in what sense ?

Now it is important to observe that scientists of nature who claim complete and genuine impartiality for their particular sciences frequently also confess to us frankly, sometimes with a touch of regret or even dismay, that they find " nature," their " universe," to be " meaningless " : and, as life advances

into age, that meaninglessness tends to assume the sombre hue of life's futility.

Now what is the supreme object of these sciences of nature? "The discovery of truth," reply these scientific specialists.

Yet to make truth[1] (short of the truth of the All, which is the supreme object of philosophy),—and, still more, highly specialised natural truth within a strictly limited field of observation and experiment—to make truth the supreme object is to subordinate at least two other objects of human life equally momentous,—the realisation of goodness and the achievement of beauty.

The natural scientist is thus inherently biased, in his view of the universe, in favour of the claims of truth,—and truth of a special kind—as against the equally valid claims of goodness and beauty.

And this Universe, amply rich enough from her myriad-nippled breast to quench the thirst of all her babes where'er they suck, gives what each supremely seeks; but that alone.

To those that seek from her bosom natural truth alone, the vast residue of her amplitude remains meaningless in its mystery; and this defect of meaning at last fatally infects the whole sphere of truth and life itself.

To the "What?" and "How?" and "When?" of natural science this Universe replies indeed in no uncertain language, rightly read; but "Whereunto?", "Whence?", and "Whither?", on Purpose, Origin, and Destiny,—upon these greater riddles, in the presence of natural science[2] the Universe is dumb. Yet only by reding these riddles emerge the deepest meaning, the significance, and the value of the life of man in its entirety.

[1] More strictly speaking, natural facts and their colligation, for such is the scientific aspect of truth. In last analysis and ultimate synthesis, truth, beauty, and goodness are one; but the paths leading to that one may and do widely differ.

[2] "Ah! What a dusty answer gets the soul
When hot for certainties in this our life."

(iii) GENIUS ; THE SUPREME SOURCE OF SCIENCE AND ART, WISDOM, AND SAINTLINESS

Yet here we can draw fresh inspiration for our fuller interpretation of life from natural science.

Consider for a little what is the supreme source of science. Is it not the creation of bold hypotheses, patient experimentation, and ultimate verification by a succession of scientific geniuses ?

Not otherwise is the path of adventure by the saintly genius, the genius of art, and the genius of philosophy. Here, too, is courage indispensable for experiment on hypotheses to be enduringly tested as to the character of holiness, of beauty, and of spiritual truth.

The Universe here again gives unmistakable answer to those that seek goodness, beauty, and wisdom.

Truly, these all profit greatly by the specialist's discovery through his senses of scientific law in nature ; but they find the universe teeming with still richer meaning and profoundly significant for the perfectioning of man and for his bliss therein.

(iv) THE SEAT OF AUTHORITY

To a less degree all this that is true of genius obtains for talent ; and what is true of talent obtains, in less degree, for the plain man.

But in general, if he is not to become engulfed in the quicksands of private interpretation, the plain man prudently trusts his leaders ; he must, indeed, ultimately rely upon their experimentation and verdict for the highest exemplars—the wisest teaching, the highest truth, the saintliest conduct, the sublimest works of art.

On the divination of successive genius, the hierophants of the Universe, incorporated and enshrined in the history and institutions of civilisation and culture, rests the ultimate authority for the plain man and woman—whatever be the

sphere of life, whether science, industry, statesmanship, philosophy, religion, or art.

(v) CUIQUE IN SUÂ ARTE CREDENDUM

And each genius must be given our love and trust in his own sphere ; yet let him not confuse issues, and speak with false authority in those things of life that fall not within his proper province.

The natural scientist[1], as such, is not an authority on sanctity, philosophy, or art ; and none of the authorities on these are, as such, true leaders on the facts of natural science.

But the saint is the highest authority on conduct, the philosopher on wisdom, and the artist on beauty.

(vi) THE INDISPENSABLE HIERARCHY OF PLAIN MAN, TALENT, AND GENIUS

To the plain man there soon comes a limit to his sphere of personal experimentation if he is to avoid shipwreck on the stormy sea of life ; for the man of talent the sphere is wider ; but even he has not the imaginative force, penetrating insight, and refinement of sense to test the verdicts of genius, nor to venture, without serious mishap and even disaster, on the more dangerous and difficult explorations of genius.

These facts, to which history testifies abundantly, are sometimes ignored or misapprehended by scientific experts with injurious effects on the soundness of public opinion upon these important matters among plain men.

Thus we are told—and it is widely believed—that "science" (meaning thereby the natural sciences) is essentially different from (say) religion in this important respect that " the average man, if properly trained, can repeat and verify for himself

[1] To the specialist so masquerading we put the words of Faust to Mephistopheles (with acknowledgements to the shade of Émile Boutroux) : *Du nennst dich einen Teil, und stehst doch ganz vor mir.*

the observations and experiments upon which 'science' is founded."[1]

We venture to think that is a grave misapprehension of the facts.

The "average man,"[2] or plain man, as we have said, takes on trust the work of talent, and the latter acts likewise towards the supreme creations of genius.

Generations of experience and experiment in schools and universities establish beyond reasonable doubt, that the "average" man cannot be trained, has not the inherent capacity[3]—hence indeed his "averageness"—to grasp, repeat, and verify for himself the highest experiments, observations, and rationale even of the talented teacher, much less of the genius.

Nor is the talented teacher able to handle independently the highest achievements of genius.

Each comes to the limit of his capacity at some point, and thereafter works in faith—the plain man upon the talented, the talented upon genius, and genius finally upon revelations to itself and its compeers, veritable hierophants of Deity. The very organisation of universities and schools is, in the main, based upon this very principle which has stood the test of centuries—the inherent and indispensable hierarchy of abilities amongst mankind.

The re-verification, the very maintenance, of the supreme truths of science are possible only from generation to generation on the condition that there appears a succession of veritable scientific geniuses.

[1] The words—and in the connection stated—are taken from a comparatively recent B.B.C. address by a distinguished scientist.

[2] An "average man," of course, does not really exist save as a convenient statistical abstraction; what is clearly meant thereby is the non-expert in science.

[3] This old truth is in accordance with the author's forty years of educational experience—from kindergarten teaching to University, from headmastership and principalship to organising and administrative inspectorial charge of the whole range of education in two of the four divisions of London under its County Council.

If these fail to appear for any substantial time, then the fields of science languish for lack of culture, and history exhibits for us the consequent " dark ages."

This historical principle obtains not in science alone but also in every field of man's activity. Thus arise the historical rhythms of culture and civilisation.

Upon their shoulders rest alike the maintenance of the standard of science, and its advancement in its grandest achievements.[1] Moreover, the correction and purification of authority can be made by genius alone : it alone can successfully challenge the verdict of another genius.

It is a memorable saying of Dr. James Martineau that it is the divine mission of genius to re-baptise us all in refreshing floods of renewed spiritual wonder, alike in science and in art, in philosophy and in religion.

Of all the great leaders of humanity, the supreme type of genius, by universal consent and honour of mankind, has ever been the revealer of new ways of noble life abundant, at once saint, sage, and artist, and therewithal great lover of nature as of man, true representative of life in its completeness and unity, envisaging the mighty drama of the life of man in its wholeness and its allness, moved by compassion for the sufferings and needs of his fellow-beings, for their sakes absorbing with patient toil the highest culture of his age ; and then, basing his supreme discoveries upon humble acceptance of experience and daring experimentation, he breathes fresh life into the grand old religions, and founds upon them a new and wider synthesis, by the light of which the ancient and enduring cosmo-poietic art of mankind is

[1] Scientific history amply establishes this, and it was in harmony therewith that the great Pasteur said : " If primary and secondary education are to be made to flow as great rivers, it is necessary to be concerned about the source—that is to say, about higher education. Such instruction must always be reserved for a small number, but it is upon this small number and upon its elect that the prosperity, the glory and the ultimate supremacy of a people depend " (Dr. Percy Frankland, F.R.S., and Mrs. Percy Frankland, *Pasteur*, p. 201. Cassell & Co., 1898).

enlarged, enriched, and purified. Then opens a new era for all living beings, human and non-human alike.

(vii) SCIENCE HAS NO INHERENT PRECEDENCE IN THE REALM OF KNOWLEDGE

By the united energies of all grades of capacity, these achievements of genius are, in the main, ultimately incorporated and enshrined in great institutions—churches and governments, universities and guilds ; and upon the faith of mankind in these and their divinely gifted initiators rests the ordered stability of society.

It is no more possible to train the " average " man to repeat, still less to challenge successfully, the experiences, reasonings, and experiments at the base of the highest reaches of scientific genius than to expect him, even after the most careful training, to repeat the arctic exploration of a great pioneer, or to emulate the records of the speed-genius on land, on water, or in air. And of all modern sciences this is overwhelmingly true in respect of the foundational one of the higher mathematics.

Here emerges the root of the too-frequent tragedy of genius working in undue isolation, with no contemporary equal in his own sphere. With none living to understand and interpret, only an indestructible faith in his god-felt mission can sustain his incredible labours to their consummation ; and mankind may sometimes wait for generations, or even centuries, ere the significance of his work is recognised and its fruits harvested for the ennoblement of the race.

Thus the highest truths of modern science—and it is on those that science ultimately rests—cannot justly claim a privileged position for themselves in being more open to the independent judgment of the plain or average man than the highest truths of religion, or any other sphere.

At the same time we can understand the wide prevalence of the opposite view. The material applications of science now appear to play so large a part in the external circumstances of our lives that we are vastly impressed with the science that begets them, and in a considerable measure we are justified in concluding that the efficiency of all this apparatus, so evident to our judgment, is indeed an independent test of the soundness of the underlying science which is open to every man that enjoys the use of that apparatus.

Yet has that procedure, thoughtfully scrutinised, a measure of real independence of judgment any higher than our daily, our hourly testing, through the manifest consequences of our conduct, of that part of the spiritual truths we have in us the capacity to receive, to understand, and to apply, selected from and so small in comparison with the vast spiritual inheritance incorporated and enshrined in the great manifold institutions that guide, maintain, and enhance the spiritual order of our lives.

There is a further point that merits brief notice though not directly connected with the theme in hand. It is sometimes claimed, and justly, that there is a greater measure of agreement[1] in the field of "science" than in other fields of human knowledge; whence there seems to follow the conclusion that the former kind of knowledge possesses greater authority than the latter. There is, however, a simple consideration that negatives such a conclusion. For the cause of the greater measure of agreement lies in the greater measure of abstraction, or loss of concreteness, from the whole full reality of things, an abstraction inherent in the very method itself of (natural) science. Thus the advantage flowing from increase of agreement is neutralised by the disadvantage flowing from decrease of reality.

[1] This agreement is, however, proved by the history of the natural sciences to be far less than the plain man imagines. Witness the present conflict of opinion between the "determinists" and the "indeterminists" in physics, the divergent schools of thought in biology, and still more in sociology.

CHAPTER XLIV

"SUMMIT-MINDS"[1]

"Who among men knoweth the things of a man, save the spirit of the man that is in him; even so the things of God none knoweth save the spirit of God." (ST. PAUL: 1 *Cor.* ii. 11.)

(i) HIEROPHANTS OF DIVINITY

WE have now given earnest attention to the general principles elucidated by the successive mighty labours of genius in the realms of the natural sciences with a view to discovering the cardinal elements that form the plan of man's constitution as a natural, or empirical creature.

The correlation of these elements is partly manifest in explicit form in that plan as symbolised in our diagrams with their annotations; and partly lies implicit in the whole organically-evolving system of our world-orientation.

That phrase "organically-evolving system" is used of set purpose.

The history of philosophy appears to justify the statement that no recorded system has ever succeeded, however artfully designed, in deducing its conclusions from a closed set of categorical elements (definitions, postulates, axioms, propositional forms, or what not) necessary, sufficient, and independent, or necessary, consistent, sufficient and interdependent, without the sub-conscious, or surreptitious importation of new categorical elements as the exposition

[1] This compound word for historical personalities of supreme genius is the invention, I believe, of that noble and penetrating ethical writer, the late Dr. James Martineau (1805–1900): see *The Seat of Authority in Religion*, 1890 (Longmans, Green & Co.): pp. 73–5 are specially remarkable for pure and eloquent inspiration. To Book I of that work acknowledgments are due in this chapter and one or two other places.

proceeds.[1] Historical experience shows that every system grows and expands in this way in the very act and by the very fact of its exposition.

To say this is to recognise that every system is a potential organism as well as a manifest work of art.

The present system is so far from an attempt to escape this condition that it manifestly exhibits "organism" as one of its cardinal elements, the very category of nature that symbolises life *par excellence*. It is therefore impregnated at its birth with the fertilised seed of its own offspring, and the conception of subjective interpenetration of categories (and consequently of *words*) springs at once therefrom, with the consequent objective equivalent form, intervolution.

Not, therefore, an impossible attempt at a closed and static world-orientation is the present, but an effort to design a system, open and dynamic, ever developing yet with a recognisable individuality.

Dealing, as it ventures to do, with an interpretation of the universe, it will inevitably be tainted with the defects of its author; and, as a work of art, it must necessarily manifest the imperfections that mark the author's attempt to mould his own life into a work of art. The stream cannot rise higher than its source.

Every interpretation of the All reveals the drastic limitations of the philosopher who ventures to assign bounds to the universe; "there are more things in heaven and in earth than are dreamed of in" his "philosophy."

In the succeeding book of this essay we turn to the interpretation of the still mightier achievements of genius in religion, philosophy, and art with a view to discovering the cardinal elements forming the design of man's constitution as a spiritual creator, and the mode of their correlation both with each other and with the empirical elements of man already considered.

[1] Not even a science so precise as mathematics is exempt from this condition. See the author's *Study of Mathematical Education* (2nd ed.), pp. 416–7.

By common consent throughout recorded history mankind has given its highest homage to its spiritual geniuses, the saint, the sage, and the artist.

We shall consider to what cardinal elements, or capacities, in the constitution of man these great spiritual leaders of the race, these hierophants of divinity, make their universal appeal, therefrom winning our love, our reverence, our trust, and thereto making their own gifts of light and consolation, of refinement and purification, of healing and beauty.

These mighty redemptive personalities, it is, from period to period, from age to age, from era to era, that are ultimately creative of those significant changes in culture and civilisation that are decisive of the destiny of all the special sciences, alike those of nature and those of spirit.

(ii) SOCIETY RESTS ON THE SHOULDERS OF THE PLAIN CITIZEN

Here we would not be misunderstood, either in our estimation of the contributions of the plain man, or in our view of the specific character of genius in the natural sciences.

On the countless, continuous, and heroic activities and lives of the plain man and woman rests clearly the massive substance of culture and civilisation ; by their unceasing co-operation of effort are colossal effects produced in society. To minister to them and their descendants genius is inspired to its unique creations ; for them talent toils as his interpreter and is supported by their approval.

(iii) THE REDEMPTIVE GENIUS [1]

All this is patent and undeniable fact. Yet equally true is it that no number of plain men, nor men of talent, can

[1] " The inspiration of religion lies in the history of religion," says Professor Whitehead in that remarkable work *Religion in the Making*, 1927 (p. 129). " By this I mean that it is to be found in the primary expressions of the intuitions of the finest types of religious lives." Compare also pp. 119, 120 and 121 of that work on the similar function of genius in other spheres. " Standardised size can do almost anything except foster the growth of genius " (p. 121). Again, " There is very little really first-hand expression in the world " (p. 119).

add themselves together jointly to create the masterpieces of veritable genius. As well might one believe that many mothers may share in the birth of a child.

Frozen, rarefied, and spectral, the supreme mountain heights are inaccessible to the many : on the solitary peaks is standing-room for but few : and who shall lightly descend into the abysses of being and bring back safely good tidings to mankind ?

> Similar is the fact expressed in a striking passage by Whitehead[1] : " The great religious conceptions which haunt the imaginations of civilised mankind are scenes of solitariness : Prometheus chained to his rock, Mahomet brooding in the desert, the meditations of the Buddha, the solitary Man on the Cross."

Among the societies of our humbler friends and fellow-beings in the world of animals it is ever the greater spirits that inspire the less ; and as the scale of life ascends into the race of man, greater still become the opportunity and responsibility of genius and the higher grows our resultant debt thereunto.

Without this hierarchy of rank, without these spiritual differences of potential, our very interdependence would be first our stagnation and then our ultimate degeneration to lower levels and lower ; and the circulation of cultural life-blood would cease.

Re-emerging, re-incarnated, the great redemptive spirits of mankind, in whom inheres the noblest of the past and by whom is absorbed the noblest of the present, bring fresh images of perfection and joy in the spiritual realms of religion, philosophy, and art, to be projected into a future hitherto inconceivable.

Such, from age to age, are the great leaping discontinuities of the birth of summit-minds that shake even unto trembling spasms the vast womb of time.

[1] A. N. Whitehead, *Religion in the Making*, 1927, p. 9.

(iv) THE CONSUMMATE UNIQUENESS OF MAN

"Γνῶθι σεαυτόν"[1]

To man and to man alone, of all animated beings, is given insight and contemplation into the secrets of his own self wherein lie the secrets of all other selves. By man and by man alone, by reason of the prophetic likeness of every thing within himself, is felt responsibility of conduct to all things, a divinely implanted duty arising from love and flowing into sympathy,—not human only, not alone sympathy with all living creatures, but the sympathy also of the artist in every-man with the psyche of all material things, even to the animated dust beneath his feet.[2]

This feeling of sympathetic responsibility for all beings, each considered as to its needs in its due place in the whole ordered hierarchy of beings with their individual values, this recognition and acceptance of universal duty distinguishes the whole man complete from every other being ; and thereby each becomes a triune law unto himself, freely co-operating with, or opposing, the wills of all other beings in the three irreducible realms of nature, material, organic, and human.

Having within himself the thumomantic signatures of all things without, man rhythmically seeks knowledge within and knowledge without ; he alone of all creatures is alike self-contemplative and other-contemplative in three realms of being.

It is in that three-fold self-contemplation, as human, organic, and material, " in the secret glades " of imagery and thought, feeling and motive, that " the springs of life arise and the distinctive lights and shadows of good and ill,"

[1] " *Know thyself.*"—Maxim reputed to the Lacedæmonian Chilon, one of the seven sages of Greece, who flourished about 600 B.C. [635 (?)–560 (?)]. It became the guiding principle of Socrates [399–469 B.C.], than whom, declared the far-famed Delphic Oracle of the god Apollo, " no man was wiser."

Footnotes of this kind are inserted in the main for Oriental readers.

[2] The old Florentines called their sculptors " masters of live stone." After Walter Pater (1839–1894).

of truth and error, of beauty and ugliness, are seen most vividly to play ; and thither is every man led by his own genius, divine, unique : " commune with thine own heart and be still."

(v) THE IDEAL SELF IN ETERNITY

Into our particular ideals there comes at their birth a creative breath from the divine : thereafter we mould our visions as we will, rejecting or accepting the guidance of our divine Companion. Let us not then give our whole selves to these, remembering they are but small parts of the Whole ; and worship of the part, however noble, as it were the Whole, transmutes at length ideals into idols ; and thus our worship sinks into idolatry. But, inasmuch as no vision nor ideal is adequate to the All, but, pushed to that extreme, awakes the counter-ideal, the light of truth breaks in at last, betrays the feet of clay, and we shatter for ever the once idol of our adoration.

Yet through the darkness that veils eternally the countenance of the All-holy-spirit gleams the divine directing love.

Inbreathing that love, bathed in that light of Eternity, every animated being sees mirrored Therein the image of that which it would be but is not—its ideal self ; and instantaneously is sentient of its kinship with Divinity and of its abiding partnership Therein.

(vi) SELF-TRANSCENDENCE

Yet, of two great things, to love is greater than being loved. If, then, in our successive incarnations, with advancing years our love, becoming less love of self, less imperfect, less impure, should at length attain unto that serenity of being that is at once perfect service and perfect rest, then the revelation of love's beauty waxes with our growing reverence for beauty ; and when we look again upon the veiled Spirit of the All-holy the alchemy of love divine wondrously transmutes the ideal personality of our self into

the imagery, more entrancing and sublimer far, of the perfected forms and consummated beatitude of those we love ; and therein, apprehending eternity in time, every self transcends its-self.

> " The evil that I do is mine :
> The good within me is divine :
> The good that others do their own is :
> Their evil by the devil sown is."

Such the paradoxal Saints of God.

CHAPTER XLV

ORDER

(i) SCIENTIFIC GENIUS

WE have attempted to portray the specific service of the redemptive genius to culture and civilisation in its revelation to mankind of higher images of perfection and warranty of fuller happiness through an intensification of that communion with the divine enjoyed by every man.

Do the biographies of scientific men justify us in selecting any particular trait as characteristic of their special type of genius ?

The more fully he understands those biographies, the more, we think, will the student recognise how happily an impartial observer, the poet Pope, has struck the dominant chord of scientific genius in his famous seminal apothegm :

" Order is heaven's first law."

Let us add to this his complete epitaph intended for Newton in Westminster Abbey :

" ISAACUS[1] NEWTONUS
QUEM IMMORTALEM
TESTANTUR TEMPUS, NATURA, COELUM :
MORTALEM
HOC MARMOR FATETUR.[2]

Nature and Nature's laws lay hid in night ;
God said, ' Let Newton be ! ' and all was light."

[1] *The Poetical Works of Alexander Pope, Esq.* (London : Dove's Classics, p. 377.)

[2] " Newton's mortality this marble monument confesses : to his immortality witness Time, Nature and Heaven."

With considerable probability may we not infer a common origin for the inspiration of apothegm and couplet in the poet's mind—the law of gravitation, and the genius of its discoverer, his great contemporary, " quem immortalem testantur tempus, natura, coelum."

Newton's continuous study of theology from his youth upwards has been mistakenly thought to have been unconnected with his great scientific generalisations or even to have impeded these. When the astronomer, Halley, once indulged in a jest upon his theological researches, Newton is said to have curtly replied : " I have studied these things ; you have not ! "—a saying that might profitably be borne in mind by scientists who venture to pronounce public judgment on theological questions—of all, the most subtle and profound —without adequate study of theology, with an assurance they would warmly and justly condemn in those who would venture to act similarly towards problems of natural science.

A careful study of Newton's life and discoveries reveals convincingly the inspirational source of his magnificent audacity in speculation and his faith in the illuminating unity and relatedness of all phenomena in nature—and that source was his profound belief in a universal order[1] emanating from the character of the God he worshipped.

There is still stronger evidence for a similar observation respecting Faraday and Clerk-Maxwell and their epoch-making scientific generalisations.

[1] Compare Dr. Max Planck (for reference, see p. 68, fn. 2, where we have quoted the first paragraph) : " Not all statements eluding logical reasoning are scientifically valueless, and such a short-sighted formalism chokes up the source at which men like Galileo, Kepler, Newton and many other great physicists have slaked their scientific thirst for knowledge. For all these men, consciously or unconsciously, the devotion to science was a matter of faith, of unwavering faith in a rational scheme of the universe.

" It is true, this faith can be forced upon nobody, just as one cannot command truth or forbid error. But the simple fact that up to a certain degree we are able to subject future natural events to our thoughts and to guide them at our will would remain a complete riddle, if it did not at least point to the existence of a certain harmony between the outer world and the human mind."

(ii) THE SCIENTIST ALIKE EXPLORER AND ARTIST

But whatever view may be taken of the ultimate source of the supreme thematic generalisations of these great scientists of past times, it will scarcely be denied by earnest students of scientific history that a profound sense of order is at the root of any scientific interpretation of nature, whether that order is deemed to be a creation of the scientist himself, confirmed by artistic selection from a chaos of natural phenomena in harmony with his own pre-conceived order or design : or, as inhering in phenomena, and discoverable by the scientist : or, as a union of the two views, partly his creation and partly his discovery, from observation and experiment with a nature, neither cosmos nor chaos, but inchoate.

(iii) INHERENT INCHOATENESS OF EVERY PHILOSOPHY OF THE ALL

The world-view here presented harmonises with the third view.

Every man is a developing being, neither wholly ordered nor wholly disordered, but inchoate ; and this inchoateness characterises not only the visible and invisible man but every work of man, visible and invisible, together, with slow, majestic march, constituting his personality, though the proportions of order to disorder therein vary within extreme limits, unimaginably wide.

Above all the works of man does this inchoateness infect powerfully every philosophical interpretation, every cosmogeny man may form of the universe.

Every such cosmogeny, therefore, riddled with grave defects, will inevitably raise questions more profound than those it answers.

Is this not one of its vital functions—revealing anew this universe as a sublime work of art,[1] yet simultaneously

[1] Compare the words of the dying artist, Antoine Wiertz (1806–1865) : " Dieu même serait incomplet s'il n'était pas artiste " (Jules Potvin, *Antoine Wiertz*, p. 171. Bruxelles, F. de Nobele, 1912).

opening new vistas wherethrough the expanding and immortal spirit may pass, if with trembling yet also with undying faith, into unknown realms of exploration, to the re-freshment of its soul and the re-vitalisation of its body ?

A truly great cosmogenic work of art is a virgin, pregnant by the old era, about to give birth to a new.

(iv) INCHOATENESS OF NATURE

" La nature a des perfections pour montrer qu'elle est l'image de Dieu, et des défauts, pour montrer qu'elle n'en est que l'image."—PASCAL, *Pensées.*

In harmony with this postulate, nature, of which inchoate man forms the most significant part, must itself be considered inchoate, being like unto everyman, each the synthetic self of countless selves.

(v) COSMOGENIC LAW OF BIAS TOWARDS ORDER

But though, at any stated epoch, inchoate, the world of nature and the world of man tend together, not to disorder, nor to final stagnation, but to ultimate and consummate order.

The firm, empirical ground for this principle lies in the fact already stated, but deserving of our repeated meditation,—that each finite whole is ever part of a greater whole, and a whole of smaller parts, whence the essential relativity of all forms of reality in respect both of that which is greater and of that which is smaller.

There is thus an inherent and double bias from irregularity to regularity in the inchoate world with its inchoate selves, a bias from the existing measure of chaos therein towards consummate cosmos.[1]

[1] A simple and effective illustration of the law that order is deeper than disorder and that the inchoate tends to cosmos lies ready to the hand of every philosophic writer who reflects upon the internal growth of his own work and the several stages in the objective expression of it up to its final published embodiment.

Before such a writer lies, say, the manuscript of a chapter of his work. It is the last of half a dozen, or even a dozen, attempts, yet still riddled with corrections, additions, and deletions demanded by his æsthetic conscience

The ultimate state cannot be that quiescence of stagnation, homogeneous and uniform, which every finite system, whate'er its size and complexity, inevitably and ultimately assumes if isolated and abandoned to its own energies. Such is not the doom of this inchoate world ; for the perpetual additions to its environment, alike outwards and inwards, result in the perpetual passage of new energies into the system.

Not doomed to stagnation, but destined to cosmos, the Aristotelian ἐνέργεια ἀκινησιάς, is this world of man and nature.

(vi) THE CONSUMMATION OF COSMOS IN ETERNITY

Yet undetermined is the duration of this state of inchoateness : and therein exists the reciprocal freedom and responsibility of nature and of man, of man in nature and nature in man in intervolution. Upon their spontaneous wills, now in sympathy, now in antipathy, towards each other and towards Deity, rest the determination of the rate of progress towards cosmos and the duration[1] of the state of inchoateness.

for subjective order of thought in units that give constant birth to smaller units and are themselves discovered to be but parts of larger units.

The manuscript goes to a skilled and intelligent operator of the typist's art. So great an improvement is the external order on the original that even to its own author the composition appears as a new creation : both whole and parts take on a richer and fuller significance.

At length the typescripts pass into a still wider world, the establishments of publisher, printer, and bookbinder. Subjected to the æsthetic criticism of this new environment, the imperfections still existing sensibly diminish : the measure of order is still more patent.

If the inner beauty of the work should justify, there appears an edition-de-luxe whose format, clarity, proportion, and general æsthetic character are the joint product of a truly large world of artist-craftsmen from paper-maker and type-designer through all intermediaries in the majestic procession to the final publication of a volume that appears a greater marvel of order the longer we contemplate it, and the more vividly we realise the numerous personalities that have co-operated in its production.

[1] So far as it is possible to judge from the past, that duration will be unimaginably vast,—comparable, indeed, with the periods of time revealed by modern astronomy in the story of the heavens.

Owing to the slow progress of the supreme natural science of sociology,

But the transcendental certitude of an approach without finite limit to an ultimate cosmos of man and nature and God, a trinity in harmony, subsists in the very being of every self, therein partakers in the Absolute Deity that creates and sustains that cardinal order, categorical and irreducible, which both makes possible the approach towards cosmos and ensures its ultimate achievement.

This transcendental certitude, this perdurable state of spiritual assurance of the ultimate harmony of the many selves in one and the one self in many, pervades the whole sentiency of everyman—as hope in his hyperconsciousness it aspires to the re-birth of the immortal self : as love in his consciousness it inspires his activities from birth to death : as faith in the awed sentiency of the passage from life to death it conjoins the last sparks of this present life with the whole evolving personality, natural and spiritual, of the eternal self of every man.

it is in the specifically human realm that we are apt to despair of the achievement of an ultimate cosmos. Yet to judge of the world's inherently orderly bias by human generations, or centuries, or even millennia, were as grossly out of perspective as to conclude upon the character of a man from what is observable in his conduct during a single beat of his heart.

The true microcosm of human society is the family, perpetually re-created from that aboriginal and natural trinity in unity,—male, female, and child.

Out of this microcosm man weaves, on the loom of space and time, the weft and warp of the macrocosmic garment of government, mending and patching, discarding and reshaping, stretching and contracting: now operating with fingers patient and gentle, delicate and responsive: now rending furiously and re-forming with a fanaticism so titanic that scarcely can he at the moment of achievement recognise the old garment in the new.

Yet when the heat of creation and destruction has passed into the light of cool and collected calm the multi-millennial experience of the race reveals to man the insignificance of the most formidable looking rent, or of the most newly fashioned device, in comparison with the unlimited vastness and unstaled variety of the aboriginal model.

Here earnest attention is drawn to the eloquent, moving, and profound passages on this whole subject of re-incarnation and order in the concluding sections of *The Nature of Existence*, by the late McTaggart Ellis McTaggart, edited by Professor Broad (Vol. II, Cambridge University Press).

(vii) A "GOLDEN AGE"

"Our wills are ours to make them thine"

This certitude of ultimate cosmos is the magnet[1] in every man that sustains his conscience and guides it without shadow of turning from its pole-star, the Absolute Deity, in its revelation of holiness as the indissoluble unity of the good, the true, and the fair, however man may wander in sin, begotten of that inseparable trinity, evil and error and deformity.

In the measure that the will, alike natural and spontaneous, of every self coincides with that absolute direction to wholeness, in that measure dawns the cosmos of a "golden age," in that measure descends a "heaven upon earth."

Far, far distant though it be from that state of cosmos, this world of man and nature yet ever moves towards it, however imperceptible to mortal eyes that progress may appear, and ultimately without finite limit of approach thereto, under the supreme co-ordinating impulsion of the categorical order identical for nature and for man—an order created and sustained by Deity, All-holy Spirit : as Personal, immanent in man spiritual and in nature spiritual, with divine spontaneity suffering with all selves and joyful with all selves : as Absolute, Super-personal, transcending man and nature, beyond good and evil.

The cardinal elements, with their relatedness in that sublime categorical order, are ingenerate in the very constitution of nature and of man.

Under its conditions of becoming, inexorable, unchangeable, nature spiritual and man spiritual weave the myriad forms of their experience, those forms, *natura naturata*, that to themselves have the ineluctable appearance of reality and wherein they create a subordinate order of their own ; and yet to Deity are those forms and that subordinate order but the

[1] Such, surely, was the δαιμόνιον (dæmon) of Socrates ? Hegel (*Gesch. d. Philos.* ii, 94–101) regards the δαιμόνιον as a "magnetic" phenomenon, physiologically explicable. (See that admirable work *The Myths of Plato*, by J. A. Stewart : Macmillan & Co., 1905, p. 3, fn. 2.)

veil of reality—*maya*—the waking dream of nature in man, of man in nature?

(viii) A CATEGORICAL ORDER INDISPENSABLE TO ANY COSMOGENY

Whatever its form, no cosmogeny of the world of reality can dispense with a related order of irreducible categories; for without it no such world can be.[1]

[1] A conception with a long ancestry—at least from Plato (427–347 B.C.) onwards. To avoid tedious epistemological disquisition on this postulate and its implications, upon which the logician in every man has argued for at least two thousand years,

> "About it and about, but evermore
> Came out by the same Door as in I went,"

I would, with that warning of old Omar Khayyám, "the king of (Arabian) philosophers," ringing in our ears, venture to refer subtle logicians to pp. 416–7, p. 141 fn., and Chap. XXII, "The Evolution of Axioms," in my *Study of Mathematical Education* (Oxford: Clarendon Press, 1921, new edn.). Therein will be found a conception, analogous to the above, considered in its function of inspiring and delimiting simultaneously the creations of the mind in the geometrical sciences (Euclidean and non-Euclidean), without which categorical conditions "the mind would wander vaguely and create nought but phantoms in an illimitable void" (p. 416).

For recent metaphysical elucidation of the conception of order, compare Professor Whitehead: "There is an actual world because there is an order in nature. If there were no order there would be no world. The ordering entity is a necessary element in the metaphysical situation presented by the actual world." Again, "The actual world is the outcome of the æsthetic order and the æsthetic order is derived from the immanence of God." Again, also, "No idea is determinate in a vacuum: it has its being as one of a system of ideas" (*Religion in the Making*, pp. 91, 92, 115). It may be added that Professor Whitehead's metaphysics, while coinciding with much in the metaphysical view of the present author, also differs from it in important aspects. But as no world-orientation can be more than a work of art, with its merits and demerits, picturing the world from the experience of the writer, the hope may be expressed that readers will find pleasure and profit in the present work as did its author in the work of Professor Whitehead, partly on those points where agreement is found, and perhaps still more on those where the experience of reader and author are different.

May the author also take the liberty of quoting the advice of the late Richard Nettleship (1846–1892) upon interpreting the works of a philosopher: "The first thing to do, if not the last, is to get, by sympathetic study, at those parts of human experience which he realised with peculiar force, however unsatisfying the theory which he wove round them" (*Philosophical Remains of Richard Lewis Nettleship*, by A. C. Bradley, 2nd edn., 1901, p. xxii).

(ix) NATURE, A SUBLIME WORK OF ART

And inchoate though it be, what language can express the sublimity of this work of art, this world of ours, wherein the whole is mirrored in every part and every part has thus the whole world within itself.

Man the scientist, humble seeker of nature's secrets, asks her meaning yet finds it not ; but man the artist, nature's lover, is content with the bliss of contemplating her as sublimest of all works of art—whose meaning is itself, not one iota more, not one iota less.

And, as with every work of art, so does nature, in the measure wherein man can empty himself into her sympathetic being, mete out to him an equal measure of strange and welcome bliss ; and every man may so discover again, and yet again, the divine paradox that the surrender of his one-self brings bliss of his other-self.

Lives not still the heart of every man in secret sympathy alike with his own childhood and his ancestors of primal ages, when all nature is animate with souls, when day and night have in them the lights and shades of reflection, when spring and autumn are the pulsations of a hidden joy and grief, the lightnings and the hurricane betoken nature's sympathetic wrath and the following calm her serenity and rest, when the salt sea cleanses from impurities and sin, when the eager stream is charged with some hasting errand, the soft wind whispers secrets to the forest leaves, the roots of every plant radiate their mutual affinities, and " every flower enjoys the air it breathes." Such the heart of every man at one with nature ; and at the centre of that heart, now in slumber, now awake, an individual genius unique, ever divinely breathing the transcendent spirit of the Infinite Being, by Whom this visible nature is folded round and steeped in a sea of eternal life. The similitude anciently adumbrated by the divination of our genius between the world within and the world without in its emotions, its ideas, and its imagery, reports a real

correspondence, the answering countenance of the Divine and of the human, communing through the symbolic glory of nature.[1] This it is to pass through her ivory gates and golden.

(x) THE IDENTICAL DESTINY OF MAN AND NATURE

Without a categorical order no real world can be.

The identity of that order in man and in nature is expressed in the similitude animating so vividly child and poet, and implicit, in the dry prose of thought, in a fundamental postulate of our philosophy—that man is microcosm of nature and nature macrocosm of man.

The related reciprocity of man and nature is there implied, as also the identity of their destinies.

It has been the main theme of our essay to elucidate the cardinal elements, with their relatedness, in that order (as we see it), through which, and under whose guidance, man may fulfil through the ages his far-distant destiny.

(xi) THE STABILITY OF HOLINESS AND BLISS : THE INSTABILITY OF SIN AND BALE

A vital consequence of this transcendental order, this ingenerate bias from irregularity to regularity, is the inherent stability of goodness, truth, and beauty, the cardinal elements of order, with the bliss that is their emotional value and function ; and conversely the inherent instability of evil, error, and ugliness, the cardinal elements of disorder, with the bale that is their emotional value and function.[2]

[1] With grateful acknowledgments for inspiration to the shades of William Wordsworth (1770–1850) and James Martineau (1805–1900), hierophants of nature.

[2] It is convenient to use pleasure and pain for the positive and negative natural feelings of the body, bliss and bale for the positive and negative transcendental emotions of spirit.

Happiness is then a synthesis of bodily pleasure and spiritual bliss : misery is a synthesis of bodily pain and spiritual bale.

Common experience also shows the union of bodily pain and spiritual bliss, as in all vicarious suffering and in pain that seems incurable yet is borne with

(xii) GOOD HABITS MORE STABLE THAN BAD

Further, as repetition of act breeds habit, the principle of order ensures that a good habit is more stable than a bad.[1]

(xiii) HOLINESS AND SIN

Each whole is both part of a larger whole and itself a whole of smaller parts ; and all wholes are embraced in hierarchies subsistent in the Absolute Deity, Whole of wholes, Holy of holies.

The recognition and application of this truth is an essential of our wholeness, as health of body, wholesomeness of soul, and holiness of spirit.

Love of a part for itself and in its due place in its own hierarchy of wholes and parts, culminating in Deity, is holiness and true reverence for that part, culminating in love and worship of Deity.

That part may, in particular, be everyman's self.

Love of a part for itself alone, and abiding therein, is sin, and idolatry ; and where that part is man's own self the sin is greater ; and greater, too, the idolatry.

In that unduly neglected yet sparkling and penetrating " Essay on Man," Pope expresses admirably the spirit of this matter in his poet's vision of a theodicy :

> " God loves from whole to parts : but human soul
> Must rise from individual to the whole.
> Self-love but serves the virtuous mind to wake,
> As the small pebble stirs the peaceful lake ;
> The centre moved, a circle straight succeeds,
> Another still, and still another spreads ;

noble resignation ; as well as the union of bodily pleasure and spiritual bale (as in vicious enjoyment, or in excess of pleasure).

The natural feeling is ever accompanied by a spiritual quality, as we shall see later.

These facts are of vital significance in any application to the individual of the great postulate of transcendental order.

[1] In all this compare A. N. Whitehead : " The fact of the instability of evil is the moral order of the world " (*idem*, p. 83).

Friend, parent,[1] neighbour, first it will embrace ;
His country next, and next all human race ;
Wide and more wide, th'o'erflowings of the mind
Take every creature in, of every kind ;
Earth smiles around, with boundless bounty bless'd,
And heaven beholds its image in his breast."

(xiv) PERSONALITY

We have spoken of the increasing complexity of the personality of every man through his successive incarnations as the resultant fruit of his activities in each life.

This complexity is unimaginably vast.

Yet it is not inconceivable ; along with increase of complexity there proceeds simplification. Actions equal and opposite cancel each other ; and, owing to the instability of sin and the stability of holiness, evil tends to be transmuted into good, error into truth,[2] ugliness into beauty ; and their accompanying feelings of misery tend simultaneously to transmutation into happiness.

(xv) PAST, PRESENT, AND POSSIBLE

From the marriage of the past and the potential future in every self spring the moments of its present in perpetual and continuous succession.

Inseparable thus in every self are its past, its present, and its future.

This intervolutional relatedness of the three cardinal forms of time is a consequence of the macrocosmic being of nature and the microcosmic being of man, each derivative from Deity.

In creating his present every man re-forms his past and fashions his future ; and in so far contributes to the re-forming of nature's past and to the fashioning of its future.

Before the Absolute Deity lies open the unimaginable scroll of all time, past and present and possible—a scroll

[1] The order is an exigency of metre, for Pope was tenderest of mother's sons ; and the obvious omission of mate and child is natural in a childless bachelor.

[2] " Magna est veritas et praevalet."

in its totality inscrutable alike to man and to nature ; yet thereon is continually being writ the triune drama of God and man and nature in sublime co-operation.

There, for each and every man, rests alike the undying romance of the living past, the overwhelming reality of the present, the hope-filled apprehension of the future.

For it is we, our selves, who have been, who are, and who shall be.

(xvi) ETERNITY

And not the illusory appearance of an unchangeable past gives possibility, or necessity, to change in the future ; it is the invariableness of Absolute Deity, alone unchanging and unchangeable, " the same yesterday, to-day, and for ever," that makes possible all change whatsoever, whether of past, of present, or of future ; and thereby provides for every animate being the measure of freedom that is exactly designed to its character and its needs.

(xvii) THE WILL TO PERFECTION

The outward revelation of the principle of order manifested in nature proceeds step by step with the inward revelation of the will to perfection inherent in every self ; the two revelations are the outward and inward aspects of one and the same truth.

The principle of order in nature functions through the nature-composing selves, in each of which that principle assumes the form of the will to a self-perfection in correspondence with the unique individuality of the self and limited thereby ; and this will to the perfection of one-self is also a sympathetic will to the perfection of other-selves owing to the interpenetration of selves.

This will to perfection inheres as a cardinal element in the constitution of every self, in every animated being, whether a hylon, a bioticon, or a homunculus.

The will to perfection is a will to the complete wholeness of the self, and thus to a holy self in its consummated beatitude.

CHAPTER XLVI

THE SCIENTIFIC GENIUS, THE PRINCIPLE OF COSMIC SIMILITUDE, AND MYTHOLOGY

(i) THE INWARD AND OUTWARD RHYTHM IN REVELATION

SCIENCE moves within the successive orbits traced out by great scientific personalities.

This motion is conditioned by the principle of cosmic similitude in harmony wherewith in the original self of every man subsists a representative of all the other original selves in nature.

The apprehension of any particular one of these representative selves within himself and the apprehension of the representative of himself within that particular self without are one and identical for every man.

This is the ontological root of the famous and ancient historical principle that, to comprehend himself every man must comprehend nature, and to comprehend nature every man must comprehend himself : the two facts are twin rhythmical forms of one and the same truth.

The revelation of the universe to every man consists in this alternation of inner with outer comprehension.

In the history of science this revelation is known as the discovery of that scientific law which is order.

The scientific genius must thus have exceptional capacity in this twin process of absorbing outward nature into himself in some particular field of his constitution, and of projecting himself into the corresponding field of the constitution of outward nature.

Every man being a microcosm, the great scientist is thus a microcosmic genius.

Here is the fertilising seed of all mechanical invention, whereby the prophetic model of mechanisms within the body of the inventor becomes projected by him into the external world, and of which an eminent instance was the invention of the telephone by Graham Bell on the model of the acoustic mechanism of man's ear.

In these times undue stress is laid on the outer experimental labour of scientific discovery ; the inner toil is apt to be overlooked ; yet nature within us is as potent and significant for science as nature without us. Indeed, as we have already indicated, every man complete is co-extensive with nature and nature complete is co-extensive with every man, though they are immeasurably far from co-incident.

Only by rhythmical adventures into ourselves and beyond ourselves is truth discoverable.

(ii) CAVENDISH (1731–1810)

Perhaps, of all Western scientists, it was to Henry Cavendish that this principle of the similitude of man and nature in the limited field of physics was most clearly perceived and most tenaciously applied throughout a working life exceeding the normal span.

If Boyle (1627–1691), in that delightful and memorable description, was " Father of Chemistry and brother of the Earl of Cork," [1] no less truly was Cavendish " Father of Quantitative Philosophy[2] and grandson of the Duke of Devonshire."

" Dr. Wilson sums up Cavendish's view of life in these words :

' His theory of the universe seems to have been that it consisted *solely* of a multitude of objects which could be

[1] Also, through his mother, grandson of the Duke of Kent.

[2] The late Dr. William Garnett (1851–1932), himself at one time the first demonstrator to Clerk-Maxwell, and, later, Educational Adviser to the London County Council, in his *Heroes of Science* (p. 131) says Cavendish "may be regarded as the founder of ' quantitative philosophy.' " The quotation above from Dr. Wilson is also taken from the same authority (p. 147).

weighed, numbered, and measured ; and the vocation to which he considered himself called was to weigh, number, and measure as many of these objects as his allotted three score years and ten would permit. This conviction biased all his doings—alike his great scientific enterprises and the petty details of his daily life.

'Παντὰ μέτρῳ καὶ ὰριθμῷ, καὶ σταθμῷ[1] was his motto ; and in the microcosm of his own nature he tried to reflect and repeat the subjection to inflexible rule and the necessitated harmony which are the appointed conditions of the macrocosm of God's universe.' "

(iii) PASTEUR (1822–1895)

Pasteur's fundamental researches on the tartaric acids, themselves leading to the great field of stereo-chemistry with Van't Hoff and Le Bel, were, in last psycho-physical analysis, the audacious exploratory projection into experimental science of the principle of dis-symmetry incarnated in his own right and left-handed body.

(iv) CLERK-MAXWELL (1831–1879)

Again, consider the far-reaching consequences of the speculative creativity of Clerk-Maxwell united with his " remarkable powers of physical insight " [2]—the projection of his inner microcosmic world into the outer macrocosmic world of nature.

" He had not only the genius to foresee that electric waves must be produced, but had given the complete theory of their generation and propagation long before their

[1] " All things by measure, by number, and by weight."

[2] Lord Rutherford, O.M., F.R.S., " Clerk-Maxwell " (*The Times*, 1st October, 1931). Similarly—and with penetrating observation upon the ground of this predictive power—Dr. Max Planck says of Clerk-Maxwell: " By pure reasoning he succeeded in wresting secrets from nature, some of which were only tested a full generation later as a result of ingenious and laborious experiments. That such predictions are at all possible would be quite unintelligible if one did not assume that very close relations exist between the laws of nature and those of the mind " (cf. p. 264 fn.).

existence had been suspected by science," [1] and so became " the great pioneer of radio-communication." [1]

In honour of Cavendish, the " highly-original but eccentric experimental philosopher " [1] above mentioned, was named the famous Cavendish Laboratory at Cambridge ; and

" the full scope and importance of his work were not fully realised until his notes and manuscript were edited by Maxwell himself," [1]

whose greatest predecessors in the domain of electricity were Cavendish himself and Faraday.

(v) SCIENTIFIC FUNCTION OF MYTHOLOGY

" In reviewing the roll of great names in the development of physical science in this country, three at once stand out for the magnitude and originality of their contributions—Newton, Faraday and Maxwell." [1]

Now there is sound evidence for holding that the strong religious faith of each of these three men of supreme genius in physical science was profoundly creative of the synoptic orientation of their view of the universe ; without this, their achievements would not have been epoch-making.

" Science can accomplish nothing," said that eminent constructive critic of the history of physical science, Ernst Mach,[1] " by the consideration of individual facts : from time to time it must cast its glance at the world *as a whole.*"

Mach shows clearly from history that such a synoptic " view of the All " is indispensable to great advances, whatever be the instinct that is its source, provided it is " the feeling of our oneness and sameness with nature " [1] ; and to such instinctive beliefs he gives the old name of " mythology." [2]

[1] All these quotations are from Lord Rutherford, O.M., F.R.S., " Clerk-Maxwell " (*The Times*, 1st October, 1931).

[2] Ernst Mach, *The Science of Mechanics*, translated from the second German edition by T. J. McCormack, pp. 461, 463 and 464. The final quotation from Mach that follows is also on p. 464.

In the case of Newton and his contemporaries, with their immediate followers, he characterises their world-view as arising from an "*animistic*" mythology, while the world-view of the French encyclopædists following them in the Eighteenth Century he describes as a "mechanical mythology."

> At the same time he points out clearly that Newton, "despite his profound religiosity,"[1] was in advance of the average scientist of his age, and was at one with the great French scientists of the Eighteenth Century in clearly separating the categories essential to mechanics from those obtaining in theology, and so avoiding confusion between their spheres.

Despite his ironic treatment of theology, Mach surely came near to a much deeper insight into the significance of religion by his selection of the word "mythology" to characterise the world-views both of Newton and of the sequent school of distinguished French scientists.

In the next book of this essay we propose to consider the vital import of "myth" to the life of mankind in its three cardinal fields of development, ethics, epistemology, and æsthetics.

Here it is enough to observe that every physics abuts on its metaphysics; and this the more firmly, the more blind the physicist remains to the fact.

(vi) A TRIAD OF MICROCOSMIC GENIUS

Mach appears to have been unduly influenced by the anthropological school of his own period. Its splendid descriptive achievements of wide realms of fact blinded him to the metaphysical weakness of its basal assumptions. Closing his mind to the great and ancient schools of theology and metaphysics (schools of mythology in its noblest signifi-

[1] We prefer to say—"*by reason of* his profound religiosity."

cance) as the supreme attempts of mankind to elucidate its why, its whence, and its whither, Mach, with many scientific contemporaries, distrusted religion, and became thus unable to assèss at their full value the vitality, breadth, and originality these mythological creations of the race breathe with sub-conscious power into the world-view of scientific genius, free to manifest its highest religious sentiency.

It was, we think, owing to this widespread attitude of modern scepticism, that the religious belief of those scientific giants, Newton, Clerk-Maxwell, and particularly Faraday—we follow Lord Rutherford in his choice of these as the supreme triad of physical philosophers amongst our countrymen—has been profoundly misinterpreted in respect of its sub-conscious influence upon their scientific discoveries; though in the case of Faraday, a modern physicist[1] of high distinction has done much to remove the misinterpretation.

In his biographical sketch[2] of Faraday (1791–1867) it is significant that Clerk-Maxwell himself quotes the following passages from Faraday's own writings, giving "his opinion with respect to the relation between his science and his religion" in a lecture on mental education delivered in 1854, and printed at the end of his *Researches in Chemistry and Physics*.

> "Before entering upon the subject, I must make one distinction which, however it may appear to others, is to me of the utmost importance. High as man is placed above the creatures around him, there is a higher and far more exalted position within his view; and the ways are infinite in which he occupies his thoughts about the fears, or hopes, or expectations of a future life. I believe that the truth of that future cannot be brought to his knowledge by any exertion of his mental powers, however exalted they may be; that it is made known to him by other teaching

[1] Sir William H. Bragg, O.M., F.R.S., Director of the Royal Institution of Great Britain.

[2] See *Encyclopædia Britannica*, 9th edn., vol. ix, p. 31.

than his own, and is received through simple belief of the testimony given. Let no one suppose for an instant that the self-education I am about to commend, in respect of the things of this life, extends to any considerations of the hope set before us, as if man by reasoning could find out God. It would be improper here to enter upon this subject further than to claim an absolute distinction between religious and ordinary belief. I shall be reproached with the weakness of refusing to apply those mental operations which I think good in respect of high things to the very highest. I am content to bear the reproach. Yet even in earthly matters I believe that 'the invisible things of Him from the creation of the world are clearly seen, being understood by the things that are made, even His eternal power and Godhead'; and I have never seen anything incompatible between those things of man which can be known by the spirit of man which is within him and those higher things concerning his future, which he cannot know by that spirit." [1]

Faraday gives the following note as to this lecture :

"These observations were delivered as a lecture before His Royal Highness the Prince Consort and the Members of the Royal Institution on the 6th of May 1854. They are so immediately connected in their nature and origin with my own experimental life, considered either as cause or consequence, that I have thought the close of this volume not an unfit place for their reproduction."

As Dr. Bence Jones concludes :

"His standard of duty was supernatural. It was not founded on any intuitive ideas of right and wrong, nor was it fashioned upon any outward experiences of time and place, but it was formed entirely on what he held to be the revelation of the will of God in the written Word, and throughout all his life his faith led him to act up to the very letter of it."

[1] "Faraday—one of the greatest of moral philosophers" (Professor H. E. Armstrong; see also fn. p. 290).

In claiming an absolute distinction between religious categories and scientific categories and allotting a higher sphere to the former Faraday is at one alike with the supreme experimental physicists and with the supreme religious leaders of the race. Just as he expected belief in his own scientific revelations, so did he yield belief to the revelations of religious genius.

(vii) "DOMINUS ILLUMINATIO MEA"

What can simple religious faith do for the scientist?

As the airman sees into the clear lake beneath more deeply than the boatman on its surface, so, with loftier flight of vision, may the scientist penetrate into the ocean of nature.

Such a vision is one of the gifts of religious faith.

A second gift is a passionate conviction of order and unity in nature.[1]

A third is serenity and fortitude of soul amid the disappointments and anxieties in one's labour and life.

A fourth is humility in presence of the All, with its twin-emotion, sensitive receptivity to the emergent revelation of truth.

Above all, spiritual faith in an infinitely Perfect Being grows, by its own irresistible attraction, into a gradual moulding of the believer's whole life in harmony with an all-embracing Ideal wherein love and truth and beauty melt together into a habit of worship that is manifested in all that is felt, and thought, and done.

Is not this our interpretation just?

Regard now these three men of microcosmic genius in the realm of physics, Newton, Faraday, and Clerk-Maxwell,—a triad not surpassed in the long and splendid history of science.

[1] This is a "ruling passion" in the case of Copernicus (1473–1543), and also of Kepler (1571–1630). Their strong sense of order and unity gave successful direction to enquiries surprisingly mingled with error, unsound reasoning, and happy conjecture.

No historical accident of time, no mere disparate duality of character, was the combination in each of these three men of supreme scientific genius with serene religious faith. Nay! The accidents of time are but transitory forms of perdurable spirits; and, to those not blinded by prejudice, the character of each manifested the unmistakable impress of the unity of a great personality wherein the seed of microcosmic genius, inborn, unique, expanded to its glorious flower and ripened to its myriad-seeded fruit through the spirit, immanent therein, of serene, religious faith in an infinitely Perfect Being.

(viii) INFLUENCE OF HIS IDEA OF A PERFECT BEING UPON THE LIFE AND LABOURS OF DESCARTES

With the innate modesty of genius that recognises at once its peers, the great Newton said that only by standing on the shoulders of giants had he seen farther than other men. Of those giants, "the father of modern philosophy" was one—René Descartes (1596–1650).

Indissolubly united was "the idea of a Perfect Being"[1] with the interdependent set of propositions forming the world-view of this greatest initiator in the opening era of modern philosophy and modern science.

To interpret the Cartesian God as the olive-branch of a timid thinker to the powerful Jesuits is but the shallow view of materialistic prepossession[2]; so far from the facts, indeed,

[1] More fully, "l'idée d'un Être souverainement parfait," or "ce Dieu tout parfait"; or again, "l'incomparable beauté de cette immense lumière": ["Œuvres choisies de Descartes": Paris, 1876 (Méditations métaphysiques).] In contrast to the still more famous *Discours de la Méthode*, the meditations were originally written in Latin (published 1641). Six years later appeared a French translation by the Duke of Luynes, revised and corrected by Descartes himself. Page 101 is of particular interest.

[2] Cf.: ". . . nul homme n'est plus entier que Descartes; nul ne se laisse moins diviser; . . ." (*René Descartes, Discours de la Méthode*, précédé d'une étude d'Alain, portrait de l'écrivain par Franz Hals, Fac-similé d'une lettre de Descartes, 1927, p. 2. L'Intelligence).

that perhaps no thinker of equal eminence has moulded his life and labours alike with such intense gravity upon the imagery inspired by his idea of the Perfect Being, not merely as the creator of the material world but as the *fons et origo* of all truth ; thereby, indeed, Descartes substituted a modern " philosophic monotheism " for the essentially " polytheistic philosophy " of medievalism.

The influence of his own particular interpretation of the idea of a Perfect Being penetrates his early conception of a universal science of which the invention of analytical geometry is an outcome ; it guides (to the neglect of due experimental tests) his suggestive theories in mechanics (the conservation of " the quantity of motion ") : and it patently inspires his labours both as the first modern psychologist and as the originator of modern physiological theory (*l'homme machine*), (again with insufficient attention to its experimental basis, in spite of Harvey's grand exploratory work !).

From the neo-platonists downwards through contemporary Jesuit scholars Descartes ostensibly derived the notion of the Perfect Being ; he held it, however, to be connate in man, inherent in his very constitution, and necessitated in man's recognition of his own imperfection.

(ix) THE CARTESIAN DUALISM OF MIND AND MATTER

The design of our essay precludes adequate development of this historical theme, as also consideration of the Cartesian conception of the disparate dualism of mind and matter, with its unfortunate application to support a doctrine that animals are insentient automata, resulting, with ruthless logic, in subsequent cruelty in practice : for

> " the recluses of Port Royal [de Paris] seized it [the doctrine] eagerly, discussed automatism, dissected living animals in order to show to a morbid curiosity the circulation of the blood, were careless of the cries of tortured dogs, and finally embalmed the doctrine in a syllogism of their

logic—' No matter thinks ; every soul of beast is matter : therefore no soul of beast thinks.' " [1]

It will be seen that our own world-view, aspiring to transcend this dualism, while recognising a mechanical aspect in all life, emphatically repudiates the conception of animals as mere mechanisms, and, in harmony with the good sense of human kind, emphasises the compassionate responsibility of man for their well-being.

The life and labours of this eminent protagonist in the great arenas of modern philosophy and modern science provide a signal illustration of the illumination that metaphysics can shed on the character of the natural universe, and, simultaneously, of the grave errors this same study can bring forth where insufficient distinction is made between the empirical categories of natural science and the transcendental categories of the spirit.

(x) EVERY SELF A PROTEUS AMBIGUUS

NOMINA NUMINA

Such confusion of thought appears surprising in a philosopher whose system pivots, and, as scientific and therefore logical, justly pivots, upon a passion for lucidity.[2]

Yet the defect is explicable, and in a measure inevitable, once we recognise the ambiguity, latent or patent, in every type of language, whatsoever it be, from mathematics at the one extreme with its unparalleled measure of lucidity, born of its extensive abstraction from reality, to the gesture-language, at the other extreme, that incarnates and manifests the primitive passions of mankind and is exploited with such unmatchable majesty, born of its intensive concretion of

[1] " Descartes, " *Encyclopædia Britannica*, 9th edn., vol. vii, p. 125 (article by the late Professor William Wallace, LL.D.). Descartes himself was free from the reproach of such a brutal use of his philosophy.

[2] " Clair et distinct."

reality, in drama, that supreme spiritual art, the poet's microcosmic form of the great imperfect world of humanity.

In its widest sense, meaning, and significance, language is, indeed, the symbolism of Nature herself, and so, in Ovidian phrase, a very *Proteus ambiguus*, a characteristic that flows from the inherent indeterminateness of every self, of every real being, at once finite and infinite, and so, in last analysis and ultimate synthesis, indefinite and indefinable.

There is, indeed, a symbol, but one alone against which a charge of ambiguity cannot stand—it is the symbol for ambiguity itself ; yet therein lies no comfort for the passionate logician, no inn wherein to rest from his weary pilgrimage to truth.

All science, whether of nature or of man, is the product of the aspiration of man to limit, to define, to fix the universal flux, by separation of the infinite from the finite ; yet, being him-self a very *Proteus ambiguus*, that aspiration is ever in course of realisation and for ever unrealisable. Through the sieve of his logic flows a perpetual stream of the infinite—in this Tantalus-labour of man, the scientist.

(xi) " LET NONE IGNORANT OF GEOMETRY ENTER THIS DOOR "
(PLATO)

To this labour have bent themselves a mighty line of logicians in East and in West ;—in the latter, at least from Plato and Aristotle onwards to the modern era opening with Descartes, through Spinoza, to Kant ; and all of this line have taken the science of geometry as the only perfect model of lucidity.

Yet now geometry, and even the still subtler, analytical branches of modern mathematics, have manifested their ambiguities.

It was, indeed, the discoveries of non-Euclidean geometry itself that ultimately co-operated with the science of physics to create that relativity-transformation of the classical Newtonian mechanics which, in its struggle with the facts eluci-

dated by the Quantum Theory, is finally compelling modern science to postulate the inherent indeterminateness of nature in its ultimate individual units or elements ; and so, by a complete revolution along the vast spiral of knowledge, to bring itself undesignedly into harmony with the ancient tradition of the Philebus of Plato—the assertion of the indeterminate element underlying all determinations, thereby returning even to the still earlier Pythagoreans who had likewise asserted the combination of finite and infinite in the universe.

(xii) CHIAROSCURO

All inference is, in fact, from a union of known and unknown to yet again a union of known and unknown : the indissoluble marriage of darkness and of light.[1]

Night follows day and day follows night ; but no day is without its shadow, nor night without its gleams of light.

Thus reveals itself this universe to man in measure adequate to the living of a life based on truth at each stage of his emergence from imperfection and his development towards perfection.

(xiii) PROBABILITY, THE GUIDE OF SCIENCE

Here is no ground for pessimism. Who can survey the advance of mathematical science from its crude and simple beginnings in Egypt some thousands of years ago to the refined and gigantic systems of symbolic operation fashioned in modern times, and not be amazed at the fertile genius of man in the invention of logical technique to satisfy alike his æsthetic will to perfection of his tools and to provide apparatus for the deepening interpretation of natural phenomena.

[1] " To understand is to draw one incomprehensible out of another incomprehensible." Albert Einstein, approvingly quoted by Sir Alfred Ewing in his presidential address to the British Association for the Advancement of Science, August 31, 1932. Compare also Symbol of Chu Hi on title-page.

Not least wonderful amongst these systems is the technique of mathematical probability,[1] whereby the massed and massive indeterminacy of nature's individual elements becomes transmuted into the increasingly accurate and comprehensive, if ever incomplete, laws of averages—known in the history of science as " laws of nature."

(xiv) WORLD-VIEW OF MACH (1838–1916)

The particular myth (or metaphysic) that inspired the Welt-orientierung of Mach may be expressed in his own words :[2]

> " I see, therefore, no opposition of physical and psychical, no duality, but simply identity."

In harmony with this postulate a further quotation from Mach may be given. In forming an opinion upon the prophecy therein contained, it is well to bear in mind a magnanimous saying of our great contemporary, Einstein, respecting the genius of Mach, to whose scientific labours, and to whose views on absolute rotation (in opposition to Newton) he has expressed his own indebtedness. Einstein is reported to have said that Mach himself would probably have discovered the Relativity Theory of space-time had he been at the height of his power when the famous Michelson-Morley experiment was made.

Provided we note that if A=B then B=A, it will be seen that the following words lend to our own world-view the prophetic support of an authority eminent for the correctness of his scientific forecasts.

> " Careful physical research," said Mach,[3] " will lead . . . . to an analysis of our sensations. We shall then

[1] Initiated by Pascal, 1654. Its limits demand further enquiry.

[2] *The Analysis of the Sensations*, by Dr. Ernst Mach, translated by C. M. Williams, 1897 (p. 195).

[3] *The Science of Mechanics*, by Dr. Ernst Mach, translated from the second German edition by Thomas J. McCormack (1893), p. 464.

discover that our hunger is not so essentially different from the tendency of sulphuric acid for zinc, and our will not so greatly different from the pressure of a stone, as now appears."

To realise the fuller implication of such a view, we observe that, if our hunger is not so essentially different from the tendency of sulphuric acid for zinc, then the tendency of sulphuric acid for zinc is not so essentially different from our hunger, as now appears ; and likewise respecting will and the pressure of a stone.

If, indeed, our postulates are valid and the external energies of nature are identifiable with its internal will,[1] thereby is meant, not that it is essentially no more than they, but that they are essentially no less than it.

(XV) PASTEUR (1822–1895)

Strikingly exhibited was the profound influence of simple religious faith upon the life and labours of that great Frenchman, Louis Pasteur.[2]

Were one figure to be selected as representative alike of modern science and of its application to the manifold arts of life, could a more fitting genius be named for this lofty position than Pasteur ?

His achievements in physics, chemistry, and biology, and their applications to the industrial, agricultural, and medical arts, are the glory of his beloved France and lofty pinnacles in the world-temple of the sciences and their corresponding arts.

[1] As in the system of Schopenhauer. In the sequel we postulate the whole will as a synthesis of the will empirical as necessitated and of the will transcendental as spontaneous. The will empirical elucidates the " blinder Will " of Schopenhauer ; the will transcendental is, however, in sharp contrast thereto, end-conceiving.

[2] " Pasteur—A veritable Christ in our Modern World," Professor H. E. Armstrong, F.R.S. (*The Times*, 5th May, 1933 : *Science and the Schools*). See also fn. p. 282.

To see into the heart of one of the supreme geniuses of science, we may fruitfully meditate in silence upon the following words used by this devout Catholic at his reception into the Academy of Science :

> " Heureux celui qui porte en soi un dieu, un idéal de beauté, et qui lui obéit—idéal de l'art, idéal de la Science, idéal de la Patrie, idéal des vertus de l'Evangile." [1]

In its characteristic features the spirit of this great genius appears to be typical of all truly scientific labour ; and the man himself is an abiding exemplar [2] to all future scientists in his self-consecration to the revelation of truth and the service of his fellow-beings, alike human and non-human.

The first quotation from his life [3] manifests the necessity of profound and quiet internal meditation in order to give ample time for the growing period of a fertile idea : it illustrates in the advancement of science the periodical indispensability of the hermit function.

> " Pasteur had an extraordinary power of concentrating his attention upon a single subject, and perhaps the most important part of his work was done in those hours when he would sit silent and immovable, deep in thought occupied with some difficult problem, allowing nothing to disturb or distract him until he had found some solution."

Again, note : [4]

> " What a tremendous power a preconceived idea proved in the hands of Pasteur in the case of his investigations on molecular dissymmetry "—a power again later manifested " from such a preconceived idea in the domain of fermentations."

The " preconceived idea " last mentioned was, that asymmetric bodies cannot be artificially produced ; which again

[1] *Pasteur*, by Percy Frankland and Mrs. Percy Frankland, 1898, p. 220.

[2] Save in his inattention to the maintenance of the health and strength of his own wonder-working body. Thus, too, erred the great Pascal.

[3] *Pasteur*, by the Franklands, p. 27. [4] *Ibid.*, p. 41.

(whether valid or not) was a consequence of his faith in life and its organisation.

(xvi) " TU NE CEDE MALIS, SED CONTRA AUDENTIOR ITO "[1]
(VIRGIL, *Æneid*)

Let the following passages witness how *splendide audax* was the spirit of Pasteur. His distinguished disciple and official successor, Dr. Roux, records[2] :

> " He developed the most profound and unexpected ideas ; he proposed experiments of the most audacious description. This rigorous experimenter possessed a powerful imagination : for him nothing was *à priori* ridiculous. But his most enthusiastic outbursts always led him to try some experiment, and in the end he only retained that which was proven."

In the same way one of the comrades of his youth remarked:[3]

> " He does not recognise the limits of science, he only loves quite insoluble problems."

A further quotation also illustrates his magnificent daring and his superb speculative creativity, though the " dogma " (mark that word—the natural sciences can no more dispense with dogma than the spiritual—it is a form of faith, a creative energy, and, if it may lead to fanaticism, it is also indispensable in the realm of light and truth), an intuitive conviction, in this instance led to but a negative result :

> " The dogma set up and so obstinately clung to by Pasteur, that asymmetric bodies cannot be artificially prepared,[1] led him into some abstruse speculations concerning their production in nature, which have hitherto[1] only received negative illumination from direct experiment. He points out that it is necessary and quite sufficient to suppose that at the genesis of a vegetable organism some

[1] " Yield not to misfortunes, but advance against them the more boldly."
[2] *Pasteur*, by the Franklands, p. 177. Roux, Pierre Paul Émile (1853–1933).
[3] *Ibid.*, p. 57. The comrade was Verdet, famous physicist.

asymmetric force must be in operation, and suggests that light, electricity, magnetism, and heat may be subject to asymmetric influences of a cosmic nature. Are these, he asks, perhaps connected with the motion of the earth, or with those electric currents by means of which physicists explain the magnetic poles of the earth ? At any rate these asymmetric forces are wanting in our synthetical reactions,[1] or are without influence on them, possibly in consequence of their rapid course.

" Nor did Pasteur simply propound these questions, but on the contrary the great master of the experimental method undertook a bold campaign into this highly speculative domain, from which, however, he soon deemed it more prudent to retreat, doubtless realising that his intellectual forces might be more advantageously employed in other directions than in a territory where only negative victories were to be won. Thus at Strassburg he actually had powerful magnets constructed with a view to introducing dissymmetric influences during the formation of crystals. At Lille, again, in 1854, he had a clockwork arrangement made with which he intended by means of a heliostat and reflector to reverse the natural movement of the solar rays striking a plant from its cradle to the grave, so as to see whether in such an artificial world, in which the sun rose in the west and set in the east, the optically active bodies would not appear in the opposite forms to those which the existing order of nature provides.

" Pasteur, however, soon realised, doubtless instructed by his experience gained in other voyages of discovery on which he shortly embarked, that the task of turning the Creator's universe upside down was even beyond his experimental skill ; recognising that, however he might reverse these external influences, he would still have to deal with the asymmetric agencies already present with all their irresistible albeit latent power in the germ of life itself, and that without the possibility of spontaneous generation there was also no possibility of realising this dream

[1] See also address to Section of Chemistry by its President, Dr. W. H. Mills, F.R.S. (The British Association meeting at York, 1932).

of a new world with its plants and animals producing the optical antipodes of the natural celluloses, albumens, starches, sugars, terpenes, etc., for the edification of the young stereo-chemical philosopher." . .

On the observations of the distinguished biographers in the last paragraph of this quotation we venture the remark that no man can, indeed, " turn the Creator's universe upside down " if by that is meant that none can transcend the irreducible categorical conditions of all real existence ; but the limits to man's re-creation of nature's nature and his own are not to be decided on any authority, however great, but by sublime experimentation alone, whether on nature without, as hitherto chiefly in Western science, or on nature within, as hitherto chiefly in the Eastern science of *yoga*.[1] And it may be that the apparent failures of a supreme scientific genius in these great and adventurous voyages may, in the end, prove more fertile than the actual successes of ordinary men.

(xvii)

" ÉLARGISSEZ DIEU ! "[2]

THE SPIRIT OF SUPREME SCIENTIFIC GENIUS

What is the composite image that is formed in the mind by long, sympathetic study of the lives and labours of the great pioneering spirits of science ?

It is a rich personality we see, yet of grand simplicity.

In the magnitude and variety of the imaginative design these epoch-makers create for the colligation of a myriad facets of nature's inexhaustible appearances, in its unity, its inventiveness, its illumination, the product of their intense

[1] Yoga is the *experimental* discipline of mind and body to the end of union of the individual with the divine. See also p. 100, fn. 1.

[2] " Set free the god within thee ! " We recall Henri Bergson : " . . . la fonction essentielle de l'univers, qui est une machine à faire des dieux." [*Les deux sources de la morale et de la religion*, Chap. IV, " Mécanique et mystique," p. 343. Felix Alcan, Paris, 1932.]

spiritual emotion awake in response to the like spiritual emotion in nature herself, in the individuality of their synoptic view of facts in the light of the whole—in these traits we recognise the consummate artist.[1]

Their passionate conviction of the one-ness, order, and solidarity of the Universe ; their patience in observation and experiment ; their humble obedience to fact—these reveal the natural philosopher in search of truth.

Their disclosure of new realms, their prophecy of realms still to be—these equally manifest the seer.

Their reverence for great predecessors and esteem[2] for contemporaries, their adventurous courage in pioneering, the loftiness and purity of their motives, their noble toil in the service of their fellow-beings and of posterity—these together unveil the saint within the scientist.

Every scientist has some measure of each of these characters —artist, philosopher, seer, and saint—and the more the measure, the better the scientist.

But in the personality of the great pioneers these characters are alive in such intensity that in their achievements we recognise not only that truth proclaimed by well-known marks as science but something even greater, for they disclose to us a truth whose revelation is also beauty and holiness.

(xviii) MYTH

And here, once again, we enter the region of myth. For science *per se* we must, as already said, regard teleological conceptions as irrelevant ; whence it comes about that for science in itself this natural universe appears meaningless. To the heart-searching riddle " Whereunto ? " science answers not.

[1] " The theory of relativity by Einstein, quite apart from any question of its validity, could not but be regarded as a magnificent work of art " (Lord Rutherford, O.M., F.R.S., The Royal Academy Banquet, *The Times*, 2nd May, 1932). Compare the author's *Janus and Vesta*, Chap. XII.

[2] Pasteur's own word.

But to the illustrious creators of science, its avatars, nature is alive not only with truth but also with beauty, and if with beauty and with truth, then alive with meaning.

Through these avatars nature loves above all to work ; as they through nature ; and each gives far-distant ends unto the other.

Nature is teleological in man.

Man, the thinker, the discoverer, the mathematician, the artist, is himself a part of nature universal ; through man nature must inevitably be conceived by man as fashioning great thoughts and moulding forms of beauty.

Thus, the impulse, latent or patent, of the true pioneer of science is teleological. Thereby his explorations are inspired and guided ; and, whatever be its shape, teleology is but a disguised form of theology, the ancient queen of the spiritual sciences in that realm of the myth, or *Muthos*, the eternal spirit manifest in all phenomena.

BOOK VI

EROS

TO THE BODY AND THE SOUL

Poor, patient body, that dost bear with all
The soul's erratic moods, and in her storms
Art tossed, as billows toss the spume, in thrall,
Enslavèd by her whims, in legion forms
Thou hast to shew thyself for others' mock
Or admiration, as she wills it thee.
Vast and fragile, in close interlock
Ye traverse time through sempiternity;
Then let no discord mar your unity,
But, like sweet married peace, be ye at one.
Fulfil the music of soft harmony:
For all, as unborn babes, are we begun.
In knowledge latent do we all progress,
Until the dream become God's ripe Caress.

YOLANDA.

CHAPTER XLVII

MYTH

(i) PLATO AND ARISTOTLE COMPLEMENTARY

IN dealing with the constitution of man as a natural being we have, in the main, been developing, with the aid of modern scientific conceptions, the long tradition proceeding from the ancient "master of those that know,"[1] Aristotle, who, in a famous phrase, described man as political animal.[2] For, inasmuch as an animal is an organic mechanism, or, if we prefer to rise from the lower category to the higher, a mechanical organism, we may develop the Aristotelian description into the statement that man natural is a mechanico-organic-humanism, or, descending from higher category to lower, a politico-organic-mechanism, a being, therefore, in whom the three basal and cardinal forms of nature are united.

Let us now breathe the air of the complementary inspiration of Plato (427–347 B.C.), at once greatest disciple of Socrates (469–399 B.C.) and master of Aristotle[3] (384–322 B.C.).

Let us consider the function of myth,[4] the sphere of the

[1] The Dantean name: "il maestro di color che sanno" (*Inferno*: Canto iv., 131).

[2] *Politics*, Book I., Chap. II.

[3] Pupil of Plato for about twenty years, thirteen of them consecutively. [Apollodorus, fl. about 140 B.C., quoted, in his *Lives of the Philosophers*, by Diogenes Läertius, fl. probably about second century A.D.]

[4] μῦθος. The author would here express his indebtedness to *The Myths of Plato*, by the late Professor J. A. Stewart (Macmillan & Co., 1905). Again and again has he returned to the enjoyment of this work since he bought it, in 1911, upon the strong recommendation of the late Professor Sir Patrick Geddes (1854–1932). The author's earliest introduction to Plato was made by

man spiritual ; as we have now dealt with the function of fact, the complementary sphere of the man natural.

As the whole man is a union of the natural and the spiritual, so is reality a union of fact and myth ; and that union is indissoluble. Who shall pronounce with ultimate assurance where fact ends or myth begins ?

Reality is a thing indefinite, a union of the infinite with the finite. Science has the function of isolating the finite from the infinite : myth, of isolating the infinite from the finite : each, a labour unending.

So subtle and complex is our theme that some repetition seems desirable, and even necessary, of preceding passages in our essay: for this we bespeak the indulgence of our readers.

From the creative spirit of man arise the age-long attempts to discover the ultimate forms, elements, or units of the material world (atoms, molecules, electrons, protons, neutrons, and so forth, in ever increasing complexity),[1] the ultimate forms or species of the living world (protoplasm, germplasm, genotypes, biophores, and so forth), and the ultimate ancestral

way of his *Gorgias* under the genial guidance of the distinguished Hellenist, the late Professor S. H. Butcher, at Edinburgh University in the winter session 1884–1885. Professor Stewart (1846–1933) was White's Professor of Moral Philosophy in the University of Oxford. We have not forgotten Plato's comparison of myth for children with science for men. Yet in that ironical attribution was there not esoterically implied the deeper truth, proclaimed, some centuries later, *urbi et orbi* by a still greater than Plato : " Verily I say unto you whosoever shall not receive the kingdom of God as a little child, he shall not enter therein " (St. Mark x. 15).

[1] " Anyone . . . who was tempted a year or so ago to believe that the atom had already yielded up its essential secrets, at least in respect of the individual entities which contributed to its structure, found himself mistaken to-day. The electron and the proton proved to have important associates in the neutron and positron. They were now to believe that the material universe was constructed not from two only but from four fundamental unit entities. They who could only look on while such knowledge grew, might wonder if the list was yet closed. They had at any rate the deuteron to consider, the nucleus of H^2." [Sir Frederick Gowland Hopkins ; Presidential Address at the anniversary meeting of the Royal Society of London, 30th November, 1933. *The Times*, 1st December, 1933.]

forms of the human world[1] (the Egyptian *ba*, *ka*, and *chu*, the soul, the spirit, the homunculus, the creative spark, the *Ur-mensch*, *l'étincelle germinale*, and so forth). These attempts, inherently destined to disappointment, yet wonderfully fertile in the by-product of scientific fact, create knowledge of a kind complementary to science, or to mathematics, the foundation of science.

Such complementary knowledge, following Plato, we may call myth ; or, inserting the interpretative element of transcendental logic—not the formal logic of mathematics,[2] but the spirit of logic (the sacred λόγος), not reasoning (that hard material of Bergson, that, in the natural constitution of man, is determined and determinate intelligence) but reason, the spirit of reasoning, *ratio* not *mens*, *raison* not *entendement*, *Vernunft* not *Verstand*—we may term this complementary knowledge mythologic and its product mythology.

In the language of modern philosophy we are here concerned with the knowledge of spirit, the spiritual sciences ; with the *Geisteswissenschaften*, not with the *Naturwissenschaften*.

Parallel with our previous development of Aristotelian conceptions we propose now to develop the complementary Platonic conceptions—each set of conceptions ultimately interpreting the other.

(ii) MYTHICAL POSTULATES COMPLEMENTARY TO MATHEMATICAL POSTULATES

Thus the postulates of myth are to be complementary to those of mathematics.

Such myths as the Athanasian Creed (with its three in

[1] " L'homme surgit dans une espèce animale, mais il est lui-même un fait métaphysique qui résiste à toute dérivation historique ; c'est Adam qui s'éveille, c'est ce fait dont cherchent à rendre compte, sous forme quelconque, toutes les doctrines et tous les mythes qui traitent de l'homme." [Paul Landsberg: " *L'homme et le langage* " : in the *Revue Philosophique*, Mars–Avril, 1933. [Félix Alcan.]

[2] Which (p. 166) we have termed *relative logic*, while *absolute* (or *transcendental*) *logic* is its complementary. Cf. the new logic of Lukasiewicz.

one and one in three) supply illustrations of the necessity, continuity, and influence of this type of knowledge.

Again, in mathematics a thing must either be or not be; in knowledge mythologic a thing may both be and not be.

In mathematics a body acts where it is ; in myth a body is where it acts. Consequently space and time are no limitations to mythical knowledge. Several bodies can occupy the same place at the same time. Time can move backwards : the present be projected into the future : and the future refashion the past. The appearance of deterministic rigour, cold and pitiless,[1] of natural science, of knowledge mathematical, neither playful nor humorous, neither tragic nor comic, gives place, in the world of myth, to irony, humour, fancy, imagination and wit, to the play of paradox and the drama of passion. The spirit of man roams whither it will, playing with the universe. This unconstrained and untrammelled spirit of spontaneity informs our natural automatism and transforms it into ever varying shapes of ceaseless surprise. We even begin to suspect and at last to believe that this universe, in part, if not in whole, is our own creation ; that it is what each separately, and all in unison, make it—the co-operative product of the living past and of the unborn future of the countless generations of each and every man. With the ancient and great theological humorist,[2] we believe this the more, the more it appears logically impossible.

By the aid of myth man fashions his religion, his philosophy, his art.

The world of myth is thus the world of continuity, whereof any part implies the others, of infinite, supernatural, universal spirit, abiding in eternity, itself unchanging yet ceaselessly recreating the world of fact, the world of natural forms.

This world of myth is interpreted by spiritual science on the super-logical postulates of Platonic and Vedantic

[1] "Ah! What a dusty answer gets the soul when hot for certainties in this our life."

[2] Tertullian. Flourished about A.D. 200.

" perfection," as the union of contradictory yet complementary qualities.[1] Its supreme maxim is " *credo ut intelligam*," enunciated by St. Anselm (A.D. 1033–1109 after St. Augustine A.D. 354–430).

In sharp contrast thereto the world of nature, the world of fact, is a world of things discontinuous, whereof none implies the others, of finite, unique forms, ceaselessly changing in time, and described by natural science on the three Aristotelian postulates of formal logic, the mechanical postulate of " cause equal to effect " and the observed specific laws of groups, defined by classes, orders, genera, species, varieties, and so forth.

Its supreme maxim is " Intelligo ut credam " (Baconian and Cartesian).

Its ultimate paradox is the annihilation of the individual by a generalisation which the individual himself makes.

Yet its " laws " rest sub-consciously on myths : the sociological on tabuism[2] (" commandments "), the biological on totemism (" species "), and the mechanical on fetichism (" atom," or other unit).

Let us consider these three myths—tabu, totem, and fetich—from another standpoint.

(iii) TABU, TOTEM, FETICH—ORENDA

We have previously stated that there are three perpetual natural marvels to man that become only the more wonderful the greater his experience of them ; the impenetrable magic of matter in its ceaseless transformations, the inexplicable miracle of life still more wonderful in its everlasting evolution and involution, and the unfathomable mystery of man's own existence, the greatest of all natural facts.

[1] Proclus (A.D. 411–485) anticipated the modern dialectical triad of Hegel (1770–1831) (thesis, antithesis, synthesis, ad ∞).

[2] " Le souvenir du fruit défendu est ce qu'il y a de plus ancien dans la mémoire de chacun de nous, comme dans celle de l'humanité." Thus with penetrating wit Bergson opens his *Les deux sources de la morale et de la religion* (Félix Alcan, 1932).

Here we leave the relatively clear world of knowledge mathematic and enter the relatively obscure world of knowledge mythologic. In this aspect of our world-orientation, for the pellucid panes of mathematics we substitute the translucent glass of mysticism.

Our own untutored ancestors, veritably we ourselves, gradually conceived three ideas to symbolise these three fundamental riddles, whatever particular word expressed those ideas : by the *fetich* we thus antiquely symbolised the magic of matter, by the *totem* the miracle of life, and by *tabu* the mystery of man. We may subsume these three conceptions under the Polynesian term *mana*, the Iroquois term *orenda*, or the Siouan term *wakanda*—all three implying supernatural power in nature, or the world of spirit.

These three conceptions, *fetich*, *totem*, and *tabu*, with the underlying verities they express, form the natural bases of three great religions.[1]

Nor, as we have seen, can modern culture avoid their implicit recognition ; for the physicist reverences the *fetich* in his " atom," the biologist the *totem* in his " evolution," and the sociologist the *tabu* in his legal catalogue of crime.

It is not open to any man to condemn them as merely idols in his barbarian stage of history lest justice compel him to name them idols also in his modern self. In truth, whatever strange vagaries may attach to them, they are permanent expressions of the unifying interpretative instinct of man, embodying his deep sense of the inexhaustible secrets of nature.

If we liken the sciences of nature unto a vast palace we may profitably meditate upon the fact that the foundations

[1] Islamism, Confucianism, and Judaism. This theme is elaborated in the sequel to the present essay with a correlated interpretation of the three respectively complementary religions, Hellenism, Buddhism, and Christianity—all six being necessary forms of a synthetic world-religion. See also p. 17. The three quasi-scientific concepts suggested in Chap. XL (hylon, bioticon, and homunculus) spring from the same triple source.

thereof are mythological, yet more indestructible far than the hardest rock.

Yet more of the unattainable truth do we reach if we compare these great sciences unto a gigantic banyan tree whose spreading branches must ever dip down into their mother earth of mythology to renew their growth.

(iv) ORENDA

Let us carry our enquiry further. This word *orenda*[1] implies power in the thing (fetich, totem, or tabu). The magician, the seer, the *vates*, the bard, the priest, each is expert in the use of this power. As modern men, are we not also great magicians daily working our miracles, though so common and trite that it is but rarely we recognise experience as a perpetual succession of magic and miracle, and only at times of crisis do we feel the mystery of our own existence.

In this high atmosphere none but the saint, the seer, and the artist can breathe and live for long.

Yet the message these pioneers bring on returning to us and our homely plane of life is ever the same, whatever be the clime, whatever the age, in which they are born : that man and his universe are through and through spiritual.

In the dry language of ontology we may sum up their faith in the affirmation : everything real is spirit.

(v) MAN AS A CREATIVE SPIRIT

Man is not, then, merely a creature of nature, acting automatically in each one of his three cardinal aspects, mechanical, organic, and human in harmony with those invariable sequences known as natural "laws." Man is not merely a natural creature determined by the laws of his natural environment, internal and external.

In the above metaphysical affirmation, we postulate also the complementary truth and regard man as a creative spirit, freely re-determining himself and his environment, making the

[1] To use the contemporary scientific substitute for *mana*.

bed whereupon he lies, reaping the fruits of his own sowing, perpetually re-creating his universe, and, throughout space-time, fashioning this inchoate world into a universal cosmos.

(vi) MYTH AS TRANSCENDENTAL

In this aspect we transcend knowledge as natural science by knowledge as spiritual science : knowledge secular, temporal, changeable, by knowledge sacred, eternal, immutable.

Knowledge spiritual as apprehension of truth is the transcendental pre-supposition of knowledge natural as comprehension of fact.

(vii) WITHOUT MYTH, NO WORLD CAN BE

What is truth but myth : yet without that myth there is no fact.

What is beauty but myth : yet without that myth there is no mathematic.

What is duty but myth : yet without that myth there is no humanity.

What is space-time but myth : yet without that myth no world can be.

Man spiritual is mytho-poet, maker of myth : mythologist, interpreter of myth : mytho-dramatist, actor of myth.

(viii) THE WILL SPIRITUAL

Co-operant with the will natural, determined and automatic, emerges the will spiritual, spontaneous and free.

The whole will, the will to at-one-ment of all the elements of life, has thus two simultaneous and complementary aspects, necessity and freedom : man is creature and creator in one.

The spiritual will of every man creates absolute standards, or values, in duty, truth, and beauty, for the development of the man natural : thus the spiritual will is normative.

(ix) EAST AND WEST

In his reflections upon the ancient dilemma of necessity and freedom [1] we would urge upon the reader a firm belief in the wisdom, each within its own proper sphere of prudent application, of the two maxims of conduct, perhaps the profoundest and loftiest in literature :

" *On the knees of the gods and goddesses lies the fate of man* " ; this maxim is from the West.

But from the East comes this contrasted saying : "*Within the closed fist of the babe sleep all the gods and goddesses.*"

Ancient though it is, the former well represents the scientific spirit of the modern Western world, envisaging man as a purely natural creature subject to inexorable natural law.

Equally ancient, the second maxim symbolises the sublime conception of Indian philosophy that, in the ultimate essence of his being, man is not natural but supernatural, not the creature of environment but its creator.

A superficial interpretation of modern world-history might seem to show that the West has applied the maxim of the East, and the East applied the maxim of the West.

A larger view of man's conduct, both in space and in time, embracing not merely relations with machinery and mechanical power, but also with life and personality, with religion, philosophy, agriculture, and art, would perchance lead us on deeper reflection to reverse our first impression. The carnage, rapine, and ruin that have recently raged in the West do not inspire us with any real measure of confidence in Western prevision and control over its future, save by co-operation with the still more ancient wisdom of the East.

How are these two great maxims to be united in the conduct

[1] As these proof sheets were passing through the press, the January issue of *Mind* (1934) arrived, of which the first article is an interesting thesis on *Free Will as involving Determination and inconceivable without it*, by R. E. Hobart (Macmillan & Co.). Perhaps we may some day have the pleasure of a further disquisition by this vigorous writer, taking into consideration our own essay, should it meet his eye and win his substantial approval, and carrying his interpretation into still deeper waters.

of life for the common weal and welfare of humanity, living and future ? Wisdom combines apparent contraries as real complementaries. Action and reaction are equal and opposite ; yet upon this very truth the effective design of all machinery is based.

Ancestral wisdom delivers the greatest maxims to us in seemingly contradictory guise of which individual prudence selects for use, now the one, now the other—master of both and slave of neither.

The freedom of man is indissolubly united with his fate, and none can trace the boundary between them ; for do not man and nature perpetually re-create each the other ?

Natura naturata, material, organic or human, is given as a chaos of beings individual and unique ; repetition is no more existent in physics than in politics ; no planet retraces precisely its path ; no stone drops twice in the same way ; no leaf has its exact fellow ; yet the spirit of man ever divines abiding elements throughout all things and from the inexhaustible chaos ceaselessly strives to create an ordered cosmos.

Thus all laws, material, organic, and human, are identical in kind and differ only in degree. In essence all laws run thus : " If this, *then* that " ; freedom of choice here, necessity of consequence there ; cause here, effect there ; duty here, destiny there.

So all history is at once the record of unique experiences, the divination of scientific law, and the creation of art.

All reality has its history, whether of matter, of life, or of humanity ; and in man alone, as simultaneously material, organic, and human, all laws are indissolubly and eternally commingled.

CHAPTER XLVIII

TRANSCENDENTAL CATEGORIES: THE SUPER-MECHANICAL, SUPERORGANIC, AND SUPERHUMAN

WE have postulated creative spirit at the heart of man in nature and of nature in man.

It appears suitable to name this aspect of our universe the *supernatural.*

Now we have three basal and cardinal categories in man and nature—mechanical, organic, and human.

What terms are we to use for creative spirit at the heart of each of these irreducible spheres of man's natural experience?

> The author has given long and careful consideration to questions of nomenclature. He has striven to reconcile due respect for linguistic traditions in custom and etymology with the necessity of finding adequate expression for the world-view he is presenting. He trusts that the terms he has finally selected, both here and in other parts of his essay, will, on due consideration, and after some familiarity with their contexts, commend themselves.

On the analogy of the term supernatural, already selected, the three following terms have been chosen to designate the spiritual essence of the three respective natural worlds of the human, the organic, and the mechanical—the *superhuman*, the *superorganic*, and the *supermechanical*; and these three find their synthesis in the *supernatural.*

The first condition that man natural shall realise the man complete is that man shall fulfil yet also transcend the first cardinal element of his natural self, his finite humanity: man must make fully manifest the superhuman.

The second condition that man natural shall realise the man

complete is that man shall fulfil yet also transcend the second cardinal element of his natural self, his finite "animality" (animal and vegetable at once, that which he is specifically as organism): man must make fully manifest the super-organic.

The third condition that man natural shall realise the man complete is that man shall fulfil yet also transcend the third cardinal element of his natural self, his finite materiality (that which he is specifically as mechanism): man must make fully manifest the supermechanical.

Of the above four terms, three are already in our language —supernatural, superhuman, and superorganic. The fourth, supermechanical, appears to be a neologism. Supermaterial, an existing word, conveys somewhat the same meaning but is insufficiently precise; and it is far from coextensive with the scope herein allotted to supermechanical. It will, nevertheless, be sometimes convenient to use supermaterial as a rough equivalent. The same kind of difficulty obtains with the other three terms; but their common usage lies much nearer to the scope they are intended to cover here, so we have ventured to retain them for our present purpose.

It is hoped that the various contexts will serve to delimit gradually their significance with that reasonable measure of precision and lucidity appropriate to the presentment of a philosophy of man's universe as a whole, embracing alike the infinitely small, the finite, and the infinitely great.

In the qualities of precision and lucidity, philosophy, with its theme of the universe, can never rival the formally logical concatenations justly demanded in the scientific presentment of the character of finite and selected regions of the universe.

If, however, philosophy, with its universal theme, must necessarily give precedence to natural science in those two great qualities, there is an attribute still greater wherein science must return the compliment—the power of influencing man's future.

If science and philosophy have the duty of forming an

interpretative theory of present realities, they have each the still more responsible function of influencing the future. This latter duty each performs by creating ideals of interpretation that exceed in comprehensiveness the clamant needs of the present. The value and validity of an interpretative theory is, indeed, to be assessed by its adequacy to present realities ; but still more by its predictive influence upon the future ; and so potent may be the ideal of the future designed by a world system of philosophy as ultimately to penetrate and influence every single field of man's activity and so transform the outlook of man upon the universe as to inspire with new conceptions the very sciences of nature themselves.

On an even vaster scale than any single science, however fertile its discoveries, the predictive ideals of a world-philosophy may, in the hands and hearts and heads of those that come after, lead to the ultimate, if far, far-off, realisation of those ideals.

We have now to combine in one diagram the cardinal categories of man natural with those of man supernatural : or,

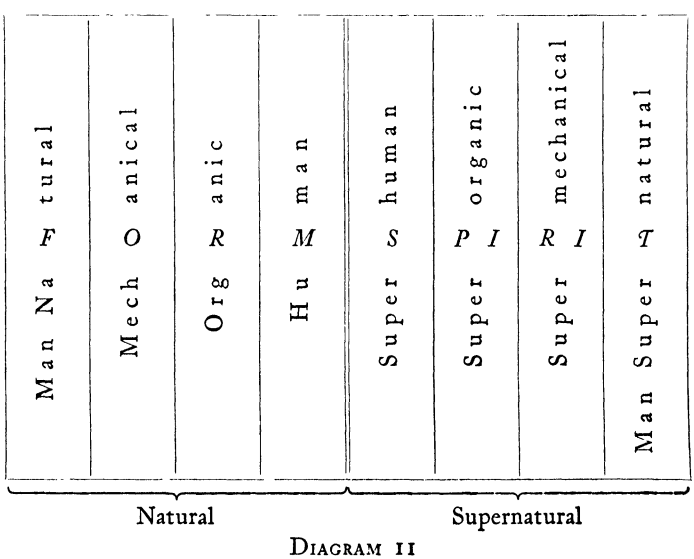


DIAGRAM II

equivalently, the basal empirical categories with the basal transcendental categories.

The three substantives corresponding to superhuman, superorganic, and supermechanical will be *superhumanism*, *superorganism*, and *supermechanism* ; and these are the three basal and cardinal categories of *supernaturalism*.

CHAPTER XLIX

ONTOLOGY, THE SCIENCE OF BEING

(i) THE ÆSTHETIC, THE LOGICAL, AND THE ETHICAL

WE have defined the superhuman, the superorganic, and the supermechanical, in relation to the human, the organic, and the mechanical, in such wise that the three former words denote respectively the spiritual essence of the three latter worlds of the natural.

We have now both to interpret them—and to justify that interpretation—in terms of great traditional words our ancestors have created, and thus to bring their significance home to the hearts and minds of men.

In this attempt it is necessary to delve further into the science of being—ontology.

(ii) MAN, AN ETERNAL ARTIST

Let us first form a picture, imperfect and crude as it must be, yet as patiently and accurately as our experience permits, of the marvellous intricacy and inter-related wholeness of the structure and action of our bodies as mechanisms.

Observe the highly articulated system of levers, massive, medium, or delicate (as in the muscles of a minute artery), formed by our anatomical structure exhibiting amazing refinement, power, and complexity, by the energising of the fibrous muscles, a system of increasing variety in unity and of increasing unity in variety, the more deeply we gaze into its minutiæ, the more tenaciously we maintain the whole in our mental view.

In extreme cases of consumption the body can draw upon the resources of every muscle to aid the specialised lung

muscles in their culminating struggle against asphyxiation. No part of the human body is specialised to such an extreme that it cannot, under stress, function in a general and co-operative sense for the welfare of the whole body.[1] Thus, every artery is an embryonic heart ; and there are methods of treating certain forms of heart-exhaustion that rest upon the prudent utilisation of this fact to relieve the strain of the central organ, itself a gigantic pumping artery, permanently hypertrophied.

Further, remembering that all energising is both corporeal and psychic, consider the experience of Dr. Séguin, the inspirer of the distinguished educational reformer Dr. Montessori,[2] and himself the wonderful teacher of those whom, in our blinding pride and ignorance, we contemptuously misname idiots :

> " We looked at the rather immovable, or ungovernable, mass called an idiot with the faith that where the appearance displayed nothing but ill-organised matter, there was nothing but ill-circumstanced animus. In answer to that conviction, when we educated the muscles, contractility responded to our bidding with a spark from volition ; we exercised severally the senses, but an impression could not be made on their would-be material nature without the impression taking its rank among the accumulated idealities ; we were enlarging the chest, and new voices came out from it ; we strengthened the hand, and it became the realiser of ideal creations and labour ; we started imitation as a passive exercise, and it soon gave rise to all sorts of spontaneous actions ; we caused pain and pleasure to be felt through the skin or the palate, and the idiot, in answer, tried to please by the exhibition of his moral qualities ; in short, we could not touch a fibre of his without receiving back the vibration of his *all-souled instrument*." [3]

[1] Compare note on *yoga* curative methods, p. 100 ; also on insomnia, p. 108.
[2] See *The Times*, Monday, 4th June, 1928.
[3] (Italics our own.) E. P. Culverwell, *The Montessori Principles and Practice*, p. 192 (G. Bell & Sons, 1918).

Now descend into the mechanisms of the circulating systems of the body ; or delve into its chemical operations ; and find a hydro-dynamic machinery and a chemical laboratory unparalleled by any industrial art of civilisation.

Contemplate the crystalline structure of a tooth, and discover a palace of superb architectural design.

View a portion of the brain under high microscopic power, and, in imagination, carry your vision into "the molecules and the atoms" with their interior astronomical similitudes. Combine therewith the operations of the sense-mechanisms, with their respective characteristic undulatory rhythms, electric, chemical, thermal, acoustic, and optical.

It is surely enough.

What is the increasingly dominant impression that unprejudicedly, we receive, the more intimate becomes our understanding, the more delicate our touch, the more sensitive our hearing, the more accurate our vision, the more selective our taste and smell, the more discriminating our sense of temperature, the more pliant our muscles ?

Have we not a profoundly æsthetic emotion ? Is there not here the experience of the veritable embodiment, the increasing realisation, of an artistic design, evolved, under the lessons learned through experimental æons of experience, in trial and error, by an eternal, end-conceiving spirit within the self ?

Within that self lives not an eternal artist ?

The famous old argument,[1] re-introduced by Paley (1743–

[1] The argument from design. " For my part," he says (*Natural Theology*), " I take my stand in human anatomy " ; and what he everywhere insists upon is " the necessity, in each particular case, of an intelligent designing mind for the contriving and determining of the forms which organised bodies bear."

Historically it is interesting to note Paley's indebtedness to Nieuwentyt (1654–1718), a Dutch disciple of Descartes. (After the late Professor Andrew Seth Pringle-Pattison, (1856–1931)). I take this opportunity of expressing my indebtedness to the labours of that eminent philosopher, of whose life and work there is a deeply interesting account by one of his old students, Professor H. F. Hallett, in *Mind*, April 1933. See, in particular, Pringle-Pattison's *The Idea of God in the Light of Recent Philosophy* (1917). My own introduction to " Mental

1805), and scotched by Darwin (1809–1882), receives a new orientation and fresh life when we contemplate the creative spirit indwelling within every man throughout the long æons of his evolution. For we are here concerned with transcendental interpretation, not with empirical science and its Darwinian and post-Darwinian theories of natural selection, an undoubtedly operating factor in evolution. " Natural Selection " is not an originating cause,—rather does it depend for its explanatory cogency upon the emergence of spontaneous " variations " (whether continuous or discontinuous), which, from an empirical standpoint, are purely " fortuitous " or " accidental."

In a transcendental view, " chance " has neither place nor function : the " variations " are creations of the spiritual will of the self in response to its ever-changing environment, itself the creation of other evolving selves. Such response, subject to trial and error, and termed memory, becomes an indelible part of every man from his one incarnation to another. Each self thus reaps the inescapable responsibility of its own choice ; and, transmuted thus into a law of inherent justice, " the reproof of chance " becomes " the true proof of men." [1]

Truly, the essential spirit of mechanism is æsthetic, wherever mechanism may be found.

If, then, we use the term *hypermechanical* for the ontological basis of our bodily and psychic mechanism, the hyper-

Philosophy " was under Pringle-Pattison's predecessor in Edinburgh, that veteran authority on Berkeley, the late Professor Campbell Fraser (born 1819, died nearly a hundred years old), during the winter session, 1885–1886, in the well-known classroom round whose walls were inscribed (I write from memory), in great letters of gold, the famous saying : " In the world is nothing great but man : in man is nothing great but mind."

[1] Shakespeare, *Troilus and Cressida* : " In the reproof of chance lies the true proof of men "—a maxim weighing much with the late Lord Oxford and Asquith. Again : " Character is more than ' luck.' Not the incident outside him but the force inside him creates his destiny, for the incident takes its quality from the personality " (Callisthenes, *The Times*, May 19th, 1933, p. 12).

mechanical is the *æsthetic* in the categories of the spiritual or transcendental.

This judgment receives ample confirmation when we pass from man's body to nature herself, with her subtle rhythms of plane and line and colour and her infinitely varied forms of pulsating energies.[1]

(iii) MAN, AN ETERNAL THINKER

Let us next consider man as an organism, with the systematic concatenation of wholes and parts in co-ordinated and composite hierarchies of units.

What have we here but the living and working incarnation of a logical system of thought in comparison with which the most potent and consistent of philosophies shows itself but a defective and rudimentary work? Is not here an organisation unapproached by even our mightiest industrial firms and federations?

Lives not in every man an eternal thinker?

If, then, the transcendental basis of organisms be termed super-organic, then the super-organic is the spirit of logic itself.

Not all the logic of all the schools will ever exhaust the description of the organisation of a single living being; rather will scientific, or formal, logic ever expand its own domain and derive its subtlest lessons from a deepening contemplation and meditation upon life. "Consider the lilies, how they grow."

[1] Compare: "All the colours of the landscape, the tints of spring and autumn, the hues of twilight and the dawn—all that might seem the superfluities of Nature, are only her most necessary operations under another view; her ornament is but another aspect of her work; and in the very act of labouring as a machine, she also sleeps as a picture." J. B. Mozley (*University Sermons*, No. VI, Nature). [Note also "sleeps" as a picture: nature perpetually passes away, perpetually sleeps (our hyper-consciousness) yet withal eternally re-creates (spiritual).]

Life is not logic, but the essential form of the spirit of logic, which is reason or truth.[1]

(iv) MAN, AN ETERNAL ETHICIST

And what of the third basal category of nature, the specifically human element? What is the transcendental basis of humanism? In what consists the characteristic mark of humanity?

Is it not the spiritual element in man that reveals to him his clear, three-fold, self-sacrificing responsibility for the welfare of all beings, each in their respective measures of intimacy of relationship with him?[2] Is it not a sentiency

[1] Noting that a plant is both mechanism and organism, the reader may find it interesting, in view of the above two-fold interpretation, to meditate upon the following extract from a review in *The Times Literary Supplement*, 11th August, 1932:

> *Art Forms in Nature.* Second Series. By Professor Karl Blossfeldt. (Zwemmer, 42*s.* net.) "Why," asks the reviewer, "do some works of Nature look like works of art, and why do some works of art look like works of Nature?" After quoting the following observation by the learned Professor (not made in answer to the above conundrum):
>
> > The plant may be described as an architectural structure, shaped and designed ornamentally and objectively. Compelled in its fight for existence to build in a purposeful manner, it constructs the necessary and practical units for its advancement, governed by the laws familiar to every architect, and combines practicability and expediency in the highest form of art,
>
> the reviewer himself offers some cogent observations upon the matter: to these, the curious reader may be profitably referred. The suggestion underlying the observations appears to be consistent with the interpretation in the present essay; but of this the reader may prefer to judge for himself. It may be added, in the words of the reviewer, that the above work (a second series) contains 120 "remarkable enlarged photographs of plant forms and details . . . exceedingly beautiful in themselves" and "full of suggestions for the decorative designer."

[2] Compare "Callisthenes": "It is the higher responsibilities which distinguish men from animals" (*The Times*, 22nd March, 1932). In his *Theory of Moral Sentiments* (1759) the great political economist, Adam Smith (1723–1790), as later did Comte, held sympathy to be in every man the supreme moral (ethical) principle, "which leads us to enter into the situations of other men

of universal duty towards compassionate activity for the suffering, towards felicitation with those that joy, in obedience to which every man transcends his natural human self?

In partaking of the suffering and joy of all others, every man is capable of vicarious suffering and vicarious joy. Such is the superhuman element in man: herein man becomes fully ethical, and realises his loving duty and his dutiful love.

Lives not in every man an eternal ethicist?[1]

If, then, the transcendental basis of humanisms be termed superhuman, then the superhuman is an ethical spirit.

Hath not the Divinity given unto man, as veritable microcosm of great nature, vicegerency[2] of all beings?

Here all the great religions of the world at their highest (Islamic, Confucian, Judaic, Christian, Buddhist, Hellenic, Hindu, and Zoroastrian) alike proclaim that it is by "sacrificing," and thus in "*making sacred*," his finite self that man affirms his eternal self, his superhuman spirit.

(we would add, and of all other beings) and to partake with them in the passions which those situations have a tendency to excite." Of this work a French translation appeared in 1764 as *Métaphysique de l'Âme*, but, in the opinion of the late Dr. J. K. Ingram, "the best" is by the marquis de Condorcet (1798, 2nd ed. 1830). Admirably says P. Landsberg: "Seule la passion, seul l'amour désintéressé, l'amour sur lequel se fonde la disponibilité à l'égard de l'univers (Weltoffenheit) et du co-univers (Mitwelt), peuvent, selon moi, caractériser plus intimement l'essence de l'homme." *Op. cit.*; see Index.

[1] Unfortunately a rare word; but there appears to be no other adequately corresponding, in the sphere of ethics, to artist in the sphere of æsthetics and to thinker in the sphere of logic. Trial and error, experiment and experience, inhere in all three. The word *moralist* (mores, manners) is appropriate to man as human, not to man as superhuman. This observation is fully consistent with the truth that morals and manners are the natural manifestation of the indwelling spirit. See also Henri Bergson: *Les deux sources de la morale et de la religion* (Félix Alcan, 1932). See also p. 200, fn. 1, and p. 352 (iv).

[2] With increasing development of the still rudimentary science of ecology as the laws of communitary life and death between bacteria, plants, and animals, and of the parallel experimentation with the corresponding art (crudely applied to animal "sanctuaries" in nature external, and to dietetics and hygiene in nature internal) this vicegerency will become more manifest and ethics enlarge inconceivably.

(v) THE THREE CARDINAL SPIRITUAL SCIENCES

Corresponding, then, to the three cardinal categories of man spiritual are the three cardinal spiritual sciences, æsthetics, logic,[1] and ethics.

Tabulating the empirical sciences with the transcendental sciences in correspondent pairs we have :

mechanology	organology	anthropology
æsthetics	logic [1]	ethics.

Corresponding to mathematics itself *quâ* empirical is the transcendental science of ontology.[2]

Further, just as each of the three cardinal natural sciences branches into subordinate sciences of the objective and subjective, so does each of the three cardinal spiritual sciences branch into subordinate sciences of the objective and subjective : the objective and subjective in respect alike of man and of nature.

(vi) THE RECIPROCAL CREATIVITY OF MAN AND NATURE UNDER THE IRREDUCIBLE CONDITIONS OF THEIR CONSTITUTION

Subject to the irreducible, transcendent, conditions of the constitution of man in nature and of nature in man, and by the limitations inherent in those conditions, man and nature in perpetual reciprocal relationship, as spontaneous spirits, experimentally create the very laws of their development from inchoateness towards cosmos.

Under those categorical conditions, as æsthetic spirit man experimentally creates his bodily mechanism and its psyche, as logical spirit his bodily organism and its psyche, as ethical spirit his bodily humanism and its psyche.

[1] Absolute logic, not relative logic ; see p. 166. Relative logic is Aristotelian, based on the three postulates of formal logic, or *analytic* as Aristotle suggestively expressed it. Cf. Lukasiewicz's logic of infinite values.

[2] On the analogy of meta-physics, ontology might be fitly named meta-mathematics had not Professor Hilbert already appropriated this name for a definite branch of mathematics dealing with transfinites. Yet see p. 223, fn. 1.

In the light of the resultant experience, man re-creates himself; and, in re-creating himself, he re-creates his environment.

Under the categorical conditions of his constitution, and in the light of his experience, man may thus experimentally transcend the very laws of empirical nature.

(vii) DIVINE NECESSITY

" He hath made with me an everlasting covenant, ordered in all things, and sure" (2 Samuel xxiii. 5).

What are those conditions, irreducible, transcendent, categoric, that give scope to the spontaneity of every man ?

Emanating from Divinity, they are apprehensible, yet not comprehensible, by man. As the pre-supposition of every language, they are not positively expressible in any language.

But by negation, man may apprehend these conditions.

Together these conditions constitute necessity, the transcendent correlate of freedom.

The scope of man's creative freedom is discoverable by experiment, and by experiment only : as the æons flow on that scope expands ; and to it no finite limit has been discovered.

This necessity is the basal postulate of the very being of selves in the universe, and of that golden law of reciprocity, itself inherent in the principle of intervolutional interdependence of every self with every other, expressible as the microcosmic being of man and the macrocosmic being of nature.

This necessity is the pre-supposition of the very existence of space and time, and of all possible mathematical propositions that exhibit the attributes of space and time.

Divine necessity is thus embedded in the constitution of man and nature, though any description or interpretation of that constitution, as herein essayed, can define it but by

negation and exclusion ; yet were the length of this halting section upon the theme of divine necessity commensurate with its import to man and nature, and were human knowledge adequate to its presentment, we apprehend the whole world would not be wide enough to contain it.

(viii) MAN BOTH A FINITE NATURAL CREATURE AND AN INFINITE SUPERNATURAL CREATOR

" In der Beschränkung zeigt sich erst der Meister,
Und das Gesetz nur kann uns Freiheit geben."

GOETHE.

" L'homme passe infiniment l'homme."

PASCAL.

" Consummation is Heaven's ; but man must work therefor."
The Shu King: *Counsels of Kâo-Yâo.*

Not material and finite only is man rigorously subject as such to the natural laws of all finite mechanisms ; but supermaterial and infinite also, an æsthetic spirit creating and transcending those laws.

Not organic and finite only is man, rigorously subject as such to the natural laws of all finite organisms ; but superorganic and infinite also, a logical spirit, creating and transcending those laws.

Not human and finite only is man, rigorously subject as such to the natural laws of all finite humanisms ; but superhuman and infinite also, an ethical spirit, creating and transcending those laws.

Not a finite form alone, material, organic, and human, that is born and passeth ; but an infinite spirit also is man, supermaterial, superorganic, and superhuman, a trinity in unity, that hath not beginning nor end.

Natural creature and supernatural creator, a being of potential perfection that, accepting divine inspiration, shall surely find the consummation of its bliss, uniquely commensurate with its own reality in Eternity,—such is each and every man.

CHAPTER L

THE INNER MAN

(i) TRANSCENDENT AND TRANSCENDENTAL

A DISTINCTION in our terminology of vital significance for the fair and proper understanding of our essay is now to be noted : it is the distinction between *transcendent* and *transcendental.*

Unless we have anywhere inadvertently erred—and in any such places we trust the reader will recognise and amend the defect—throughout we have used the term *transcendental* in description of that aspect of man or nature which is spiritual, and thus, transcending the empirical, yet is immanent therein.

But the term *transcendent* we reserve expressly for DEITY. Thus the *transcendent* is that aspect wherein DEITY, super-personal and symbolised, with the supreme paradox of ontology, by THE ABSOLUTE GODHEAD, transcends both man and nature and all finite knowledge whatsoever ; whereas tha complementary aspect of DEITY, all-personal, and symbolised by God, is immanent in man within nature and in nature within man, and is apprehensible by man and nature, yet is not comprehensible by them.[1]

The verb itself, to transcend, as common to both adjectives, we shall employ as the context demands.

(ii) TRANSCENDENTAL CORRELATIVES OF SENSE, INTELLIGENCE, AND FEELING

In the constitution of man spiritual [2] let us now consider the cardinal creative elements that correspond to sense,

[1] Chinese philosophy has substantially the same conception : T'ien (" great one "), impersonal Deity ; conceived as Shang Ti, personal Deity.

[2] Man transcendental, supernatural, a creator.

intelligence, and feeling in the constitution of man empirical.[1]

On the analogy of the terms already selected these respective transcendental correlatives of sense, intelligence, and feeling may be named *super-sense*, *super-intelligence*, and *super-feeling*.

Here, again, we encounter that formidable difficulty periodically confronting any thinker in his exposition of a system both complex in itself and rendered more difficult still by the necessity of introducing neologisms to distinguish clearly its manifold elements.

After repeatedly considering how to lighten this difficulty which arises with special force at this point, we propose to adopt an intermediary stage in the exposition, and, though with some risk of confusion, to use for a while traditional philosophical terms, following, in the main, the Geddesian[2] classification.

It will, however, be necessary in interpreting these customary terms, in one aspect to extend considerably their scope, and, in another aspect, to disregard their composite character. The substantial appropriateness of these terms thus interpreted will, we trust, gradually appear as the exposition proceeds. We venture further to hope that the reader, after traversing the intermediary stage, will not find any insuperable difficulty in the transition to the use of the various neologisms offered for his acceptance whenever the need for their purely metaphysical significance is felt.

For the time being, therefore, instead of the elemental, or purely-metaphysical[3] neologisms just introduced, super-sense, super-intelligence, and super-feeling, we shall use the respective terms *imagination*, *ideation*, and *idealisation*.

[1] Man finite, natural, a creature.

[2] It is convenient to use this term for the sociologic system of the late Professor Sir Patrick Geddes: we refer to the *science*, not to its political applications which are not here in question, and upon which we offer no opinion.

[3] Compare and contrast "the pure essences" in the Phenomenology of Husserl, Scheler, and Heidegger. A similar difficulty met us with soma and body.

Imagination, ideation, and idealisation are, then, the three respective creative elements of sense, intelligence, and feeling.

The corresponding verbs are imagine, ideate, and idealise.

Thus, as imagination is to sense, so is ideation to intelligence, and so likewise is idealisation to feeling.

Further, as sense, intelligence, and feeling fuse into a natural unity in the empirical will, so the spiritual will fuses into transcendental unity imagination, ideation, and idealisation.

The terms originally used by Geddes [1] were "ideals, ideas, and imagery."

Later in his life [2] this triad became "emotion, ideation, and imagination (or imagery)." There is much to be said for "conception" in place of "ideation." Further, the form of the table, embodying his thirty-six categories, was reversed in such wise that the line of "emotion, and feeling" was transferred from outer to centre, while the line of sense and imagery was transferred from centre to outer, in order to symbolise the more vital and initiative significance of "emotion and feeling."

As our own tabulation is defined in terms of elemental categories, all indispensable to the constitution of man and all equally irreducible, this particular transformation of the table is not of substantial significance for our purpose. It has also to be observed that our subsequent introduction and interpretation of the "will" as sovran faculty of man make comparison in this respect irrelevant.

If the reader so prefers, he may imagine our table or pattern rolled round a cylinder,[3] in which form it possesses

[1] See reference to his famous paper on p. 15.

[2] See *The Interpreter Geddes*, by Amelia Defries (1927, George Routledge & Sons, Ltd.), Chap. V, "The Notation of Life."

[3] With axis parallel to line separating subjective from objective. With a cylinder whose axis is parallel to line separating form from spirit we have another useful device. If the radius of the latter becomes infinite, in small or in great, what does the diagram symbolise? May we interpret this extreme case as a symbol, inadequate yet dimly significant, of the ultimate identity of form and

certain obvious advantages to those with geometrical aptitude in facilitating thought.

I was informed by Geddes himself, early in my long friendship with him, that he invented the prolific and famous analytico-synthetic table of his categories while suffering from a serious illness in his eyes in Mexico, during which he was confined to a dark room with a shaded window of rectangular panes.

Geddes reached this schema with the lightning leap of genius, yet, in his published account, supplied but a meagre explanation. In this marked characteristic of his discoveries, he reminds us of the famous Laplace (1749–1827), who, on reaching similarly a seminal and novel truth, in the mechanical and mathematical sciences, of whose soundness he himself felt intuitively assured, but of which he was unable to exhibit the rational grounds (or perhaps had insufficient patience to undergo the drudgery involved) was accustomed to introduce his discovery in some such phrase as : " De là il est facile de conclure." Nathaniel Bowditch,[1] the North American astronomer, remarked : " I never come across one of Laplace's ' Thus it plainly appears ' without feeling sure that I have hours of hard work before me to fill up the chasm and show how it plainly appears." These leaps of genius are frequently the most vital of its revelations and amply reward the scholar's hard labour of interpretation.[2]

spirit (reminding us of the Aristotelian identity of form and proximate matter), of space-time and eternity, of the man natural with the man spiritual (the " homunculus "), and so forth ?

And what interpretation can we give of the corresponding extreme with the preceding cylinder ? See also Chap. XL, and particularly section (ix).

[1] 1773–1838 : won an international reputation by his translation of the *Mécanique céleste* of Laplace.

[2] That eminent physicist, the late Professor P. G. Tait (1831–1901), (under whom the author had the privilege of being introduced to " Natural Philosophy"), states of Sir William Rowan Hamilton (1805–1865), " one of the really great mathematicians " of the nineteenth century : " In the summer of 1822, in his seventeenth year, he began a systematic study of Laplace's *Mécanique Céleste*. Nothing could be better fitted to call forth such mathematical powers as those of Hamilton ; for Laplace's great work, rich to profusion in analytical processes alike novel and powerful, demands from the most gifted student careful and

These three terms, imagination, ideation, and idealisation, are not, we have said, precise synonyms for super-sense, super-intelligence, and super-feeling. The latter triad is metaphysical : the former is intermediate between the metaphysical and the empirical ; and, therefore, not elemental, but derivative and composite. For Geddes was primarily biologist and architect, later psychologist and sociologist, not a metaphysician, whose true function, indeed, he appears to have misconceived until towards the very end of a long life.[1]

Thus "idealisation" obviously admits of analysis into emotion, conception, and image : for an ideal implies an emotional urge towards an imagined end.

So majestic in some contexts, (such as the Platonic, the poetic, the artistic) yet so commonplace in others, is the scope of the three great traditional words in this triad that some detailed exposition and illustration are called for.

(iii) IMAGINATION

"O Lady ! we receive but what we give,
And in our life alone does Nature live ;
Ours is her wedding garment, ours her shroud ! "

COLERIDGE.[2]

Let us take the word " imagination " first, with its natural correlate, sense.

Commonly, we doubtless use " image " for the reproduction

often laborious study. It was in the successful effort to open this treasure-house that Hamilton's mind received its final temper. 'Dès lors il commença à marcher seul,' to use the words of the biographer of another great mathematician." [*Encyclopædia Britannica*, ninth edition, vol. XI, p. 421, 1880.]

[1] His paper on " What is Mysticism ? " (*Sociological Review*, April, 1930) in his seventy-sixth year shows a powerful metaphysical trend.

[2] 1772–1834. From *Dejection ; an Ode*, 1802. Stanzas IV and V, in particular, have an exquisite charm, and express the creative power of " Joy," therein harmonising with great philosophies alike in Orient and in Occident. See also Chap. LII (iv).

The view adumbrated in section (iii) above (to be interpreted in the light of the whole essay), finds also independent and beautiful form in two contemporary English poets : see *Uriel*, by W. Force Stead, pp. 6 and 7 ; and *Pursuit of Psyche*, by W. J. Turner, p. 23.

or revival from memory of sensations that are visual : less often, of sensations that arise from the other sense-organs popularly held to be five in number, and therefore including also ear, touch, smell, and taste, as well as eye.

More precisely, an " image " involves the partial and modified revival of the corresponding perceptions, where perception itself is a compound of sensation and intelligence.

These definitions do not touch the ontological question: " Which is ultimately prior—sensation or image ? " From the standpoint of empirical science, sensation is, of course, prior to its revival or reproduction from memory as imagery: but, from the standpoint of ontological science, the ego weaves experimentally by its imagination its own universe of experience from space-time.

Does the plastic artist imitate that part of nature which he sees ? Truly ; yet also is perpetually creating that part. But surely the sea, the mountains, the sun and stars were there æons before this plastic artist appeared, and continue æons after he has vanished ! Verily, to mortal eyes, it is so : yet, as eternal being, every artist co-operates everlastingly with the divine in the creation and maintenance of the whole vast universe, and sees therefrom that part alone which himself has created in æons past and will continue to create in æons future.

Far wider than the scope of " imagery " embraced in the above definitions will be our usage here, where our interpretation is now primarily transcendental, though inevitably implying its empirical aspect.

(iv) THE FIRST FUNCTION OF IMAGINATION

What, then, is the first function of " imagination " ?

Imagery, as the product of imagination, embraces the reproduction, from the storehouse of memory, of impressions received in the present life-period of every man, from any sense, ranging from the brief experience of an aborted embryo

of the ego to its rich experience as a centenarian in a different incarnation.

Of these senses, every man has the following, rudimentary or developed : (i) touch, smell, taste, hearing, and sight, which normally convey impressions of the external world, (ii) the muscular sense and the sense of temperature, which normally function externally or internally, (iii) the sense of orientation of the body as a whole in the fluid mechanism of the ear, and (iv) the cœnæsthetic sense, that massive, corporeal sense of organic well-being or ill-being, chiefly concentred in the abdomen,[1] (v) the sense of the "*ego*," pre-eminently a human sense, as clear self-consciousness.

The muscular sense, as operating with every other sense, must be considered as adding thereto its own psychic element ; this generic sense is doubtless intimately and inseparably associated, if not subjectively identical, with the charging and the discharging of the fine electrical mechanism of the body, particularly in the greater organs and most vividly perhaps in the noble, pumping heart.

All these sources of sensation are associated with their corresponding imagery.

Such imagery, in all its inconceivable complexity, we may call the first creative product of man spiritual, as an imaginative, and so super-sensuous, being, transcending sense by imagery.

(v) THE SECOND FUNCTION OF IMAGINATION

In the second place, imagery embraces the product of every man's faculty of creating combinations or designs, wholly and absolutely new, from the memory of sense-impressions. This is clearly manifest in every art of man,

[1] It is suggested that a valuable and interesting comparison, in the light of our essay, might be instituted between the works of Swift (1667–1745) and those of Rabelais (1490 (*?*)–1553) as affected by their re-actions to the possession of an abdomen by man.

alike in the minor arts, and, still more convincingly, in the major arts, poetry, music, drama and dance, architecture (including landscape), sculpture, and painting.

Such products of the imagination, in their inexhaustible varieties and intensities, we may call the second creative product of man spiritual, man as imaginative, super-sensuous being, transforming sense into imagery, and transmuting imagery into new forms.

(vi) THE THIRD AND HIGHEST FUNCTION OF IMAGINATION

Its third operation everyman's imagination fulfils in its re-incarnation of his eternal self, performing therein the two preceding types of operation in respect of similar sensuous experience in all his previous periods of spatio-temporal existence.

By aid of this faculty of imagination, though not thereby alone, in co-operation with its natural environment inclusive of the maternal womb, the ego of man, corporeal and psychic, somaplasm and psychoplasm,[1] evolves from conception, maintains in existence, and dooms to ultimate involutional disappearance in death its manifest psychic body and bodily psyche—that marvellous product of vast memory, ancestral yet uniquely individual, moulded from man's creative imagination.[2]

This we may call the highest creative product of man spiritual as a super-sensuous being, pro-creating into periodical, spatio-temporal, manifest existence his eternal, essential self with its whole previous sensuous experience and super-sensuous experimentation.

No less than this is implicit in our definition of man as a spirit, with its own unique, hierarchical, series of representative forms.

[1] Terms used by that penetrating psychologist, the late Professor James Ward.

[2] See also fn. p. 100 (*Yoga*).

(vii) THE POTENCY OF IMAGINATION

Such is the three-fold scope it is here proposed to give to the word imagination, with its related terms, imagery and imagine. It embraces design of every conceivable kind from simple to complex ; and at the heart of every such design inheres an æsthetic spirit of beauty or ugliness, a logical spirit of truth and error, and an ethical spirit of good or evil ; for imagination creates simultaneously in the three worlds of the super-mechanical, the super-organic, and the super-human.

So potent is the inner significance and so vast the psychic penumbra of this word " imagination " with its various congeners, that there have been metaphysicians who postulated this faculty of man as the supreme creative instrument of all his experience.

Though readily comprehensible, this view is extreme ; its insufficiency arises from the temptation, insidiously attractive to thinkers, so greatly to magnify the scope of one word as to erect it into a veritable divinity. It is, indeed, an example of the many " structural fallacies "[1] of the human intellect—to think that the life of man is interpretable by one supreme category, even of the intellect itself.

Yet category piled upon category will never adequately interpret life : life alone in all its inexhaustible aspects can give full significance to life.

Man, as philosopher-artist, can do no more than weave a humble picture of life with weft and warp of a number of well-selected categories of thought, coloured threads of his limited material. If his tapestry but throws a little light upon the impenetrable mystery of man's life, the philosopher may be content to have performed his chief duty ; if, in addition, the picture pleases, then is he indeed favoured by the gods.

[1] A suggestive phrase of the late Judge J. B. Stallo. See Index.

(viii) SENSES AND ENERGIES : SOME QUERIES

In parenthesis, we venture to make some suggestions and to put some queries to experimental psychologists concerning the relations between the senses, potential or actual, and the forms of energy, potential or actual.

Excluding gravitation, inherently related to the mechanical body *per se*, so not here relevant, there are eight forms of energy, spatio-temporal, mechanical, electric, chemical, thermal, acoustic, optical, and magnetic. Is there a sense, alike external and internal, corresponding to each of these energies—in a word, eight external senses and eight internal ?

In our system of cardinal categories we have postulated a general, or universal sense of space-time corresponding to a general, or universal, spatio-temporal energy. From this universal sense evolve the specific senses, as the specific energies derive from the universal spatio-temporal energy.

Therewith goes a certain measure of transformability of each specific sense into any other, as of each specific energy into any other.[1]

This reciprocal action of the senses would thus influence all the other cardinal elements of the subjective life of man ; and these, in turn, react upon the senses.

Do these specific energies, mechanical, electrical, chemical, thermal, acoustic, and optical, correspond respectively to the specific senses, tactual, olfactory, gustatory, temperature, hearing, and sight ?

These six specific senses function, or may function, externally.

Are there also specific senses functioning internally in corresponding relation to the specific energies—as, muscular sense to material energy, cœnæsthetic sense to electrical energy, temperature sense to heat energy—and what of the others ? [2]

[1] Thus, the Chinese talk of " hearing a smell."

[2] Attention is drawn to recent researches, on the specialised bodily apparatus functioning as pain, by Professor David Waterston—the interpretation of which is still obscure.

And the sense of orientation—does it correspond to magnetic energy ?

Of these eight senses,[1] four, namely, temperature, hearing, sight, and orientation, are pre-eminently and respectively correlated to the spiritual life of man in its ethical, logical, æsthetic, and ontological faculties. Of those specifically mentioned above, the remainder are pre-eminently correlated to the natural life of man, those of touch and muscle to his mechanical faculties, of scent and cœnæsthesis to his organic, of taste and the ego-sense (the sense of *self*-consciousness) to his human, while the senses of time and space are intimately interwoven with his mathematical faculties.

But what of the unknown blanks in the presumably sixteen senses ?

> From an empirical standpoint, the energy of light is the external stimulus to the actual development of the potential sense of sight.
>
> From a metaphysical standpoint, the spiritual will, operating through imagery, idea, and ideal, creates the potential sense of sight.
>
> Penetrating still further into becoming—the spiritual will weaves light itself, with all its glorious colours, from space-time, under the absolute and divine conditions of being.
>
> Likewise with the other senses and the other energies.

Finally, may we analyse the presumably general spatio-temporal sense into an internal sense of time and an external sense of space ? [2]

Then would these particular senses of time and space be both perpetually operant in themselves, and also influence the other specific senses.

[1] The specific sexual sentiency, a complex union of the cardinal elements in man's constitution, is considered in the sequel to the present work.

[2] More precisely, a sense of time-duration and a sense of space-extension.

(ix) IDEATION

After *imagination* and its cognates, imagery and imagine, we proceed to a consideration of the term *ideation* and its cognates, idea and ideate.

Ideation is the capacity to create ideas. This word "idea" has been justly called the most famous word in the history of European philosophy. At least from Plato downwards vast themes have been constructed about it and will doubtless continue to be. Here our exposition must be strictly confined to the immediate purpose.

For that purpose the word *conception* would, in some respects, be more understandable than the term *ideation*.

We have, however, debarred ourselves from the use of *conception* in the above context by reason of the indissoluble relationship we have already postulated between *conception* and *organism*, a relationship symbolised in the two-fold meaning of "conception" as both biological and epistemological,[1] and, further, transformed and elevated into a cardinal belief of one of the great religions in the Catholic dogma of the "Conception" of the "Virgin" by the "Holy Spirit"—sublime myth of the divinity inherent in every birth, without which faith biology would become but as a tree uprooted and dying.

To avoid misconception on this subject—a misconception I find myself frequently tending to make owing to the really close customary relationship between the two words—it may be useful to offer a section of the diagram of the constitution of man we propose eventually to build up, omitting, however, the geometrical framework.

[1] *Metabiological* would be an appropriate term. The late Viscount Morley in his *Notes on Politics and History* (Macmillan, 1913, p. 96) uses the corresponding term "Metapolitics" as "the counterpart in theories on government, to Metaphysics in speculation upon Being." A convenient triad of epistemological terms would be: metaphysics in respect of physical being, metabiology in respect of biological being, and metapolitics in respect of sociological being.

Rèmembering the relationships { ethical = super-human. / logical = super-organic. / æsthetic = super-mechanical.

. .

we have :—

	organic sense			logical imagery	
mechanical intelligence	*organic intelligence*	human intelligence	ethical idea	*logical idea*	æsthetic idea
	organic feeling			logical ideal	
	empirical			transcendental	

DIAGRAM 12

If, in the above diagram, we substitute for the category *logical idea* the equivalent term *conception*, and remember that *logical idea* is the transcendental correlate to *organic intelligence*, itself the subjective aspect of the objective organic function, we have in view, upon attentive observation of the diagram, at once the distinction and connection of *idea* and *conception* and the indissoluble relationship between conception and organism, the category, *par excellence*, of life itself.

Life, indeed, as natural fact and in transcendental origin, is a process of perpetual *conception*, organisation incarnate.

Were we to ignore artistic considerations and push a purely logical ideal of interpretation to its extreme we should be compelled to recognise every one of the sixty-four cardinal categories in our constitution of man as contained in each of them, inasmuch as these are all necessary for the interpretation of language or any part of language, and therefore also of any and every word.[1] This

[1] Attention is drawn to an admirable and original study by Paul Landsberg, " L'homme et le langage," (translated by Henri Jourdan) in the *Revue Philosophique*, Mars–Avril, 1933 (Félix Alcan): " Il faut donc distinguer soigneusement entre la question de l'origine des mots isolés et la question de l'origine du langage " (p. 241). " Le discours est la création d'une totalité en tant que telle

would harmonise, indeed, with our postulate of the intervolved-penetration of every " self " with every other ; but it would unduly offend the æsthetic ideal of lucidity by interpreting *obscurum per obscurius*. We therefore deliberately refrain in this present essay from the logical extreme just adumbrated.

We have defined *ideation* as having the same relation to *intelligence* as *imagination* has to *sense*.

Now combine this definition with one postulate of the one-to-one correspondence of soma and psyche : that to every element of either corresponds an element of the other, so that to the soma as functioning corresponds the psyche as intelligent.

Ideation, then, is related to *intelligence*, the subjective form of the activity of the empirical man (or self), in the same way that *imagination* is related to *sense*, the subjective form of the environment of the empirical man (or self).

Further, as imagination is spirit creative of sense, so is ideation spirit creative of intelligence.

In Aristotelian language, intelligence is νοῦς παθητικός, the mind as form-receiving, ideation is νοῦς ποιητικός, the mind as form-creating. In German philosophical terminology, intelligence is *Verstand*, ideation is *Vernunft*. Intelligence is forced upon man, a *datum* for consciousness : in ideation man is free, thereby creating new consciousness.

Man *has* intelligence : man *is* idea.

Anticipating the sequel in a fuller statement, we may say : as an empirical self, man *has* necessary experience, and as a transcendental self, man *is* a spontaneous experimenter.

More fully still : as an empirical self, man *has*, sub-

et cette création a lieu *ex nihilo* en ce sens que le tout est plus que la somme des parties dans lesquelles il s'incorpore. Ainsi nous trouvons dans l'homme doué de langage un créateur, un créateur dont la puissance sans doute est bornée, et qui n'est qu'un symbole du parfait créateur. Mais dans ce symbole se manifeste pourtant la présence réelle du ' Creator spiritus,' inscrite en langues de feu " (p. 251). Compare also Max Scheler, *Zur Idee des Menschen*.

jectively and of necessity, sensations, intelligence, and feelings, and, objectively and of necessity, environment, function, and body : as a transcendental self, man *is*, subjectively and of spontaneity, imagery, ideas, and ideals, and, objectively and of spontaneity, spiritual environment, spiritual function, and spiritual body.

In more synthetic statement : man empirical *has* a natural will and a natural personality : man transcendental *is* a spiritual will and a spiritual personality. [1]

Or, we may regard intelligence as reasoning *à posteriori*, and ideation as reasoning *à priori*, wherein reason is the spirit of reasoning, its very pre-supposition.

Or, again, we may link up both words with our view of man by regarding the relation of intelligence to ideation as that of the empirical activity [2] of the mind to its transcendental activity, or, if we prefer, as that of the natural activity of the mind to its supernatural activity.

By *mind* [3] is meant the whole subjective aspect of man,

[1] Though far from identical therewith, the above view has certain substantial points of agreement with the important and well-known philosophical theory of Professor Lossky, whose independent confirmation is encouraging.

[2] Professor James Ward considered 'activity' an irreducible term in psychology. Bushido, the Japanese warrior's religion, held with the Chinese philosopher, Wan Yang Ming, that to know and to act are identical.

[3] " Mind and body," though an inevitable, useful, and well-established description of man, is too loose for scientific use owing to the wide ambiguities of each word (mind and body), not only in ordinary speech, but also in the history of philosophy itself. To " mind " as above defined (diagram 13) there is (so far as is known) no clear correlative word for the objective aspect of man. We have therefore avoided the use of the phrase " mind and body " in the main text, so far as possible. There is also another famous description of man we have rarely ventured to use, also by reason of its great ambiguity in other than Christian literature, the phrase " body, soul, and spirit " ; and, where it appears in our theme, by " body " is meant the natural outer man, and by " soul " is meant the natural inner man (the psyche). Indeed, however carefully the terms are defined, all such descriptions of the constitution of man, a being possessing infinitude as well as limited by finitude, whether dual (mind and body), triple (body, soul, and spirit), or . . . sixty-four fold (as in our frontispiece) . . . or employing any finite number of categories (or terms), however large the number, can be no more than successive approximations to that unattainable description

alike empirical and transcendental, alike temporal and spiritual, and alike natural and supernatural, as diagrammatised thus :—

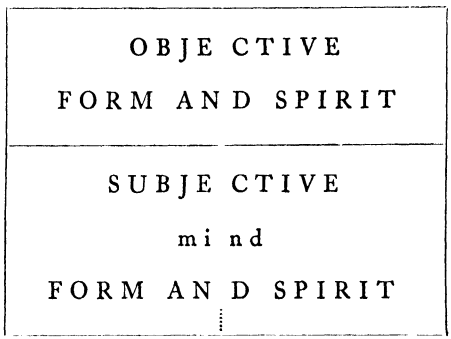


DIAGRAM OF *Mind* : 13

Further, as imagination is of three cardinal types, æsthetic (super-mechanical), logical (super-organic), and ethical (super-human), so is ideation of three cardinal types, æsthetic,

whose terms are necessary, sufficient, and independent, or, equivalently, necessary, sufficient, interdependent, and consistent. Such an ideal description is not possible even in a science so abstract as mathematics. Particularly is it advisable to avoid conclusions, based on the mere geometric symbolism of diagrams such as are used herein, that imply an advance beyond the measure of precision proper to the interpretation of the categories (or terms), beyond which their " penumbras " become extremely ill-defined and so obscure that the categories merge into each other. Even in physical science the definition of boundaries has its drastic limits of precision, though these expand for each successive age of science. [See the author's *Study of Mathematical Education*, 2nd edition, pp. 328–331, and 316, 317 : also in the present essay, pp. 117, 66 fn. 1, 185, 231, 310, and Chap. XL, (ix).] To elucidate our view, we add this further note. If we apply appropriately the dual principle of correspondence involving four terms (subjective and objective with transcendental and empirical)—these four are, of course, also implicit in the sixty-four cardinal categories—it is not difficult to see that seven additional terms selected from those in the frontispiece, making eleven in all, combined in a certain way, are sufficient to suggest the *primâ facie* existence of another fifty-seven terms; but they are not sufficient for such an interpretation of these as awakes belief in their reality, and in their conformity with our experience.

logical, and ethical[1] ; or, equivalently, we may say that ideation is creative by embodiment in the world of mechanisms, by conception[2] in the world of organisms, and by incorporation in the world of humanisms,—three worlds that are one alone in the whole man complete and in all nature complete.

In respect of the scope of ideation, it has a field corresponding to that of imagination, in its three-fold function, in each of the three spiritual worlds ; and ideation is co-equal partner with imagination in the creative life of the whole man complete or of all nature complete.[3]

And just as every image is analysable into three, æsthetic (super-mechanical), logical (super-organic), and ethical (super-human), so is every idea analysable into three, æsthetic, logical,[4] and ethical.

The following table exhibits the preceding analysis of image and idea :

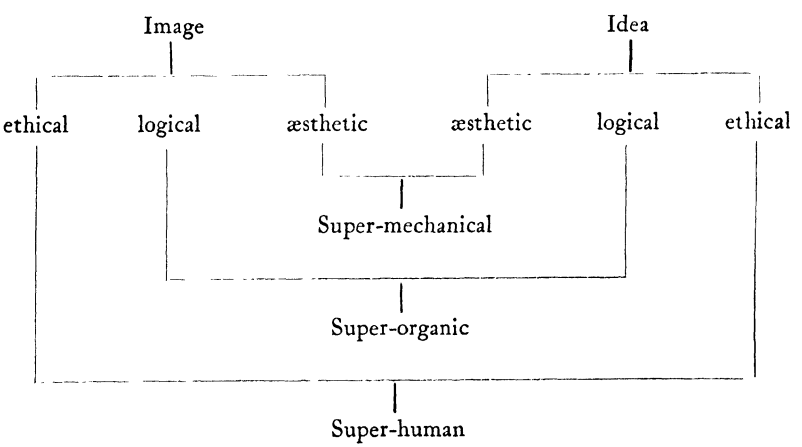


DIAGRAM 14

[1] Thus corresponding to the three experimental, psychological factors respectively—Dr. Maxwell Garnett's " c," Professor Spearman's " g," and the late Dr. Webb's " w."

[2] *Embryonic* conception.

[3] See sections (iv), (v), and (vi), above.

[4] Idea as logical we have termed *conception*.

(x) IDEALISATION : THE CREATION OF SPIRITUAL VALUES

To empirical *sense* subsists the transcendental correlate *imagination*, to empirical *intelligence* subsists the transcendental correlate *ideation* : what transcendental correlate subsists to empirical *feeling* ?

It is the capacity to create spiritual values, or ends—from the most lowly in the simplest natural feelings of pleasure and pain to the most sublime in those highly evolved hierarchies obtaining in the powerful emotions characteristic of religious (ethical), philosophic (logical), and artistic (æsthetic) experimentation in life.

These created values or ends may be right or wrong, true or false, ugly or beautiful ; in two words, they may be good or evil.

Our language appears to have no word to express unambiguously the capacity simply to create value, irrespective of its goodness or badness. The great traditional word *idealisation* commonly denotes the capacity to create values that are good : the contrasted word *idolisation* denotes the capacity to create values that are evil.[1]

After searching in vain for a suitable word, and guided by the fact that both ideal and idol have the same Greek root, I was tempted to invent a new word for the capacity to create values or ends—*ideolisation*, each syllable to be pronounced distinctly, with full value on each of the first four vowels and with main accent on "ol," the third syllable. On trial with friends, however, my new word met with ill favour ; so that it is necessary to widen the word *idealisation* to cover the capacity for creating spiritual values or ends, irrespective of their quality.

[1] Compare, yet also contrast, Spinoza's treatment of ideal, idea, and imagination.

If this is granted, then our triad of pairs of correlates stand thus :·

empirical	transcendental
sense	imagination
intelligence	ideation
feeling	idealisation

The scope of idealisation in respect of feeling is co-equal with the scope of ideation in respect of intelligence, and with the scope of imagination in respect of sense ; further, it embraces the successive lives of every individual in its experiment with life and in its experience of life.[1]

Finally, as with imagination and idea, idealisation admits of a three-fold analysis—ethical, logical, and æsthetic ; or,—employing our more strictly metaphysical terms,—super-human, super-organic, and super-mechanical.

Equivalently, idealisation is creative in the worlds of humanisms, organisms, and mechanisms—three worlds that are one alone in the whole man complete or in all nature complete.

(xi) SUMMARY

Collecting the immediately preceding results into an extension of our analysis of the constitution of man, and omitting elements already dealt with, we have the accompanying diagram. (See next page.)

It will, perhaps, be conceded how much more convenient for bringing together a complex group of categories is the type of tabulation used in this diagram than would be the extension to similar categories of the customary type used on p. 339 ; though each type has its own dangers attendant upon its advantages.

[1] See sections (ix), and (iv), (v), (vi), above.

OBJECTIVE FORM				OBJECTIVE SPIRIT			
sense	mechanical sense	organic sense	human sense	ethical imagination	logical imagination	æsthetic imagination	imagination
intelligence	mechanical intelligence	organic intelligence	human intelligence	ethical ideation	logical ideation	æsthetic ideation	ideation
feeling	mechanical feeling	organic feeling	human feeling	ethical idealisation	logical idealisation	æsthetic idealisation	idealisation
Subjective form (empirical)				Subjective spirit (transcendental)			

DIAGRAM 15

CHAPTER LI

THE WHOLE WILL

(i) THE SOVRAN FACULTY : THE SPIRITUAL WILL

WE have been steadily approaching the sovran faculty of every real being, of every self, and pre-eminently manifest in the whole man complete—the spiritual will, supreme creative power of man, co-eternal with man's quintessential being, and whereby, in ways inscrutable, without haste and without cease, everyman creates his destiny.

In this arcanum, inmost and uttermost, a spirit alike unique and universal, uniting infinitudes of small and great, super-temporal and super-spatial, man determines spontaneously the issues of birth and death, of health and disease, of bliss and bale.

Here lies the realm of man's true freedom, everlasting, inexhaustible, unassailable.[1]

Yet in itself this spiritual will is void of content : we wonder not therefore that in all recorded ages there have been men of mighty intellect who denied its very being.

> Spirit immanent in every perception, this will cannot itself be perceived by any sense or instrument of sense, though giving sight to the eyes, hearing to the ears, touch

[1] This epithet, Homeric in its quality, is not our own, but unblushingly borrowed, in a like context, from the judicious Callisthenes :

> " Wherever there is life it is assailed.
> The only unassailability is the creative will of man."
>
> (*The Times*, 6th June, 1932, p. 10.)

Like that distinguished statesman, the late Lord Rosebery, we have for many years enjoyed the grace and strength of the Callisthenic Essays, so reminiscent of their Baconian predecessors that touched the business and bosoms of men.

to the hands, warmth to the body, taste to the tongue, scent to the nostrils, orientation to body and soul, particular existence to every specific sense of man.

Yet he that denies freedom to the will, by that denial re-affirms it. In the very moment that the intellect of man throws freewill out of the window, it re-enters by the door : neither event is before nor after the other ; the welcome back is one with the contemptuous dismissal. Scepticism upon the freedom of the will is a spear of Achilles wounding and healing the mind by the self-same thrust.

What, then, is the relation of this will spiritual to the spiritual contents of the mind ?

Those contents the will spiritual creates into a whole ; it transcends the sum of the parts into their unity : it gives them the benison of integrity.

It is one of the structural temptations of the intellect to think that there cannot be in the whole what does not exist in the parts.

The spiritual will integrates and unifies the imagery, the ideas, the ideals, of the mind.

There is a faint analogy that may dimly illuminate the marvellous creativity of this sovran faculty : for the spiritual will is like unto the creative power of the bracket, implicit or explicit throughout the symbolism of mathematics, without which power in the formation of new units that science could not advance one single step.

So is it with every synthetic act of every science, for which reason the growth of mathematics is the exemplar of all scientific progress.

In last analysis and ultimate synthesis, no act, no experience, no experiment, is possible without a synthetic judgment[1] ; and no synthesis is possible, however rudimentary and simple, without the creative or spiritual will.

[1] St. Thomas of Aquinas applies this principle in his interpretation of the freedom of man's will.

The spiritual will is operant throughout the super-human or ethical world, the super-organic or logical world, and the super-mechanical or æsthetic world : the spiritual will is thus analysable into the ethical will, the logical will, and the æsthetic will.

Herein, the spiritual will is the supernatural correlate of the natural will.

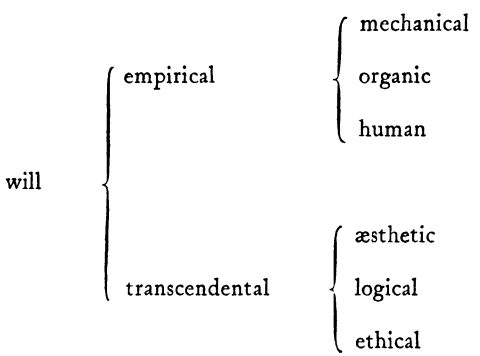
(ii) SUMMARY—THE WILL COMPLETE

The next extension of our diagram of the constitution of man stands, then, as in number 16 below.

	OBJECTIVE FORM			SPIRIT			
sense	S	U B	J E	C T	I V	E	image
intelligence	F	O R	M	S	P I	R I T	idea
feeling							ideal
natural will	mechanical will	organic will	human will	ethical will	logical will	æsthetic will	spiritual will

DIAGRAM 16

The will of the whole man complete may be also exhibited thus :



Each of the above aspects of the will is purely integrative.

Further, the will *quâ* mechanical integrates the sense, intelligence, and feeling of the psyche *quâ* mechanical ; the will *quâ* organic integrates the sense, intelligence, and feeling of the psyche *quâ* organic ; the will *quâ* human integrates the sense, intelligence, and feeling of the psyche *quâ* human.

We may briefly refer to these three aspects of the empirical will as respectively the will to energise, the will to vitalise, and the will to humanise, irrespective of their spiritual quality.

Again, the will *quâ* æsthetic integrates the imagery, ideas, and ideals of the spirit as super-mechanical ; the will *quâ* logical integrates the imagery, ideas, and ideals of the spirit as super-organic ; the will *quâ* ethical integrates the imagery, ideas, and ideals of the spirit as super-human.

We may briefly name these three aspects of the transcendental will as respectively the will to duty, the will to truth, the will to beauty.

In each of these, its six cardinal aspects, the will may range from an indefinitely large positive position through the zero of indifference and apathy to an indefinitely large negative position : yet we are justified in naming them as we have done inasmuch as experience is ever teaching experi-

ment the ultimate supremacy of right and truth and beauty, over the wrong and the false and the ugly.

Summing up, we find the complete will of man to be six-fold : three-fold empirical and three-fold transcendental.

(iii) " THE UNIVERSAL GOOD IS IN ME YET IT IS NOT ME "
(PASCAL)

To bring into intimate contact with existing and customary language our view of the sovran faculty of man, we have temporarily compromised with the purely ontological language with which we began the exposition and which was more in harmony with our world-orientation.

In doing so there is some risk of misinterpretation, as, in referring to good and evil, right and wrong, truth and falsehood, beauty and ugliness, we are descending into details, however ample and general, belonging strictly to the hierarchical evaluations of religion proper to the sequel to this essay. For this essay is concerned with universal categories alone, and is strictly propædeutic to the sequel, dealing with its practical application to life, here and now.

To correct, so far as may be, any such misinterpretation, we betake ourselves with grateful refreshment to one of the supreme prophetic utterances of the Christian Book of books, memorised in childhood well-nigh sixty years ago, yet in age, we trust, apprehended more vitally and vividly.

Beyond good and evil, inconceivably transcending our present crude ideals, ideas, and imagery, our present experience of love and beauty, of happiness and wisdom, of activity and rest, yet to be born into existence of the eternal seed therein, is that perfection and bliss whose potentiality The Absolute Godhead, The All-holy Spirit, doth from everlasting to everlasting transcendently sustain in the very constitution of every man.

" Eye hath not seen, nor ear hath heard, nor hath it entered into the heart of man to conceive that which God hath prepared for them that love him."

CHAPTER LII

ACTS, HABITS, CHARACTER, AND DESTINY

" The infinitude of every man yearns for finitude, and his finitude yearns for infinitude."[1]
(*Ancient Saying.*)

THIS spiritual, this creative, this freely determining will, this potential divinity immanent in every man, experimentally operates throughout his experience from periodical embryonic conception in the maternal womb, (itself now, as in æons past, but an embryo within an embryo), to periodical deaths.

These perpetually accumulating operations merge into habits : and habits into character.

And thus, by this his sovran power of will, every man fashions his destiny throughout " the accumulated lives "[2] of the countless æons of his existence.

Yet not in isolation creates each self its destiny. So perfect a unity in potentiality is this manifold universe, so profoundly intervolved are the realities of being, that, in the weaving of his destiny by each and every man, all other selves, according to their varying intensities of interpenetration of that man, co-operate with him[3] : and thus, in just

[1] Compare Dr. A. D. Waller, F.R.S., the late physiologist : " Every man has the instinct of death and the instinct of life."

[2] The famous United States surgeon, Dr. Keene, (1848–1932), was wont to substitute for " old age " the phrase " the accumulated years." Replacing " years " by " lives " to describe the indefinitely varying duration of the successive re-incarnate existences of every man, from a fraction of a second in æons past, to the present " century of solar years," we have extended Dr. Keene's phrase to the ampler total duration of the life of every man.

[3] Our view of the character and personality of every man embraces, if also transcending, Comte's theory of the " subjective existence " or survival of each individual in the consciousness of others. [L. Lévy-Bruhl, *The Philosophy of Auguste Comte*, 1903 ; Swan Sonnenschein & Co., p. 356.]

and due proportion, is each self responsible, primarily for its own unique destiny, yet, thereafter, also for the unique destinies of every other self.

In justice to the feeblest beings, and to all beings at their feeblest moments, it is the simplest beginnings and re-beginnings that respond most readily to the will creative, —the unuttered wish, the faintest feeling, the rudimentary intent, the elemental perception, whate'er the field and sphere of life's range—it is in these countless, embryonic things of the inner life that each child, woman, and man forges and fashions its destiny.

In these humblest experimental beginnings every self prepares for the great events. By this its creative will, exercised through vast æons, every being co-operates in its own unique measure in moulding this very universe itself from inchoateness dim to a cosmos resplendent, that shall satisfy in ample measure the inmost enduring yearnings of every heart.

This spiritual will is operant over the three natural worlds, both in man and of man, the mechanical, the organic, and the human. We have named those three aspects, the supermechanical will, the superorganic will, the superhuman will.

(i) THE SUPERMECHANICAL WILL OF EVERY MAN

As a mechanism (a mechanical self) man is composed of a countless number of subordinate mechanisms (also mechanical selves), molecules, atoms, electrons, protons and so forth in all their varied compositions and groups, each of these also with its supermechanical will operating over its constituents. These countless real beings in the body of man are integrated, brought into one unified mechanism, by the synthesising supermechanical will of man, their lord and host. In co-ordinating and sub-ordinating by selection their unique, individual activities, man influences each one in a measure by which each one influences man. Every mechanical self (atomic or other) impresses upon its temporary

host something of its own unique character, and receives in turn an impression of the unique character of its host.

> Thus, by the incessant operation of his transcendental will, man comprehends, with consciousness increasingly clear and convinced, as experience expands and further development results, the basal principle of equal action and reaction in the mechanical world of nature, whence ultimately emerges the principle of the conservation of energy of mechanism ; for, from the eternity of the real being of the individual self, there necessarily follows the conservation of the selves, or, the conservation of energy.

Thus through æons of time each man extends his own unique, material character and personality with increasing richness and amplitude throughout nature towards ultimate mechanical perfection in its identical kind ; and so also rediscovers his self mechanical and maintains his hereditary mechanism[1] at each periodical concentration by re-embodiment here and now.

And thus also throughout time man creates ceaselessly the mechanical environment, into which, as ceaselessly, he must continually adapt his increasingly intricate mechanism.

(ii) THE SUPERORGANIC WILL OF EVERY MAN

Likewise is it with the superorganic will.

Here are great organs with their multi-myriad cells, these with their chromosomes, and these again with their genes,[2] life within life without end, and in each its indwelling self,

[1] Commonly called *instincts*.

[2] Gene, the term invented by Johannsen, "the last in the long series of representative particles beginning with Darwin's 'gemmules' and the 'pangens' of de Vries, which were formulated to account for the phenomena of heredity. . . . Various estimates of gene size have been made in *Drosophila*. One of the latest, by Gowen and Gay (1933), arrives at a minimum size of 10^{-18} cm.^{3}, the number of loci in the nucleus being estimated at more than 14,000. This maximum size would only allow space for about fifteen protein molecules. There is at present a large margin of error in such estimates." *The General Nature of the Gene Concept*, by Professor R. Ruggles Gates, F.R.S. [*Nature*, 18th November, 1933, Macmillan & Co.]

with its own unique, superorganic will, representatives of all the organic ancestors[1] of each man, to be unified by selective super-ordination, co-ordination, and sub-ordination into the hierarchical whole of the complete organism by the superorganic will of that man who to the constituent selves is a veritable god.

> The man complete, we here recall, is in part " diffused, latent and formless " throughout nature and in part " concentred, manifest and definite " here and now ; and so, in whole, in-de-finite is every man ; in last analysis and ultimate synthesis the self and its own unique environment are one.

Here, again, in this realm of the organic world there obtains the reciprocally influencing activities of the respective characters and personalities of the host and of the guests ; and again emerges and evolves a principle, or law of equality in action and re-action, whence also the principle of conservation of organic energy, or energy of organism ; for the eternity of the organic self (the *conatus sese conservandi* of Spinoza) embraces this principle.

Thus again each man extends his own unique organic character and personality with increasing richness and amplitude throughout nature towards ultimate organic perfection in its identical kind, thereby perpetually re-discovering his own organic self in his environment and maintaining his hereditary organism at each periodical concentration in re-incarnation.

And so likewise does each, throughout vast æons of time, create the organic environment into which he must ceaselessly re-adapt his evolving organism.

(iii) THE SUPERHUMAN WILL OF EVERY MAN

Corresponding truths hold of the superhuman will.

Here we have representative constituents of the countless

[1] Compare that original and profound study, *Health, Disease and Integration*, by Dr. H. P. Newsholme (Medical Officer of Health, Birmingham), 1929.

human ancestors of each man, each with his own superhuman will, unified, by selective co-ordination and sub-ordination, into the hierarchical whole of each man's own humanism by the unique superhuman will of that man.

And here again in the realm of the human world there obtain the reciprocally influencing activities of the respective characters and personalities of the host and of the guests ; and again emerges and evolves a principle or law of equality in action and re-action, whence also the principle of conservation of human energy or energy of humanism.

And here once again each man extends his own unique human character and personality throughout nature with increasing richness and amplitude towards ultimate perfection in its identical kind, thereby perpetually rediscovering his human self and maintaining his hereditary humanism at each periodical concentration in re-birth.

And so likewise does every man throughout the æons of time ceaselessly create the unique human environment unto which as ceaselessly he must re-adapt his humanism.

(iv) "THE OMNIPRESENCE OF EACH IN ALL"[1]

This process of inter-volvedness, this physical basis of interdependence, throughout space and time, this interpenetration of mechanical, organic, and human elements, conceived as not merely consistent with, but essentially dependent upon, the preservation of unique distinction of individualities in all things real, presents us, on deepening reflection and experience, with an increasingly satisfying, if but dim, picture of the inconceivably marvellous structure of the universe, wherein each real being has a measure of responsibility for every other while still abiding uniquely itself with its own individual self-responsibility.

Truly we enjoy and suffer with our ancestors, and, equally truly, also with our own ancient selves.

[1] Coleridge. See also Chap. L, p. 327, fn. 2.

In this mysterious penetration of every self by every other sleep everlastingly the roots of understanding and compassion, of that self-less service each may give to the rest, "even to the hated enemy," whereof comes to birth that "love of our neighbour" which all saints assure us is thus, and only thus, within our power to win, a priceless possession for ever.

In this universal web of life, extending from self to self, are woven together justice to minutest measure and mercy in equal treasure.[1]

[1] In harmony with all the great religions; thus, see Islamic: *The Preface* (*al Fâtihat*) to the Koran.

CHAPTER LIII

THE INVISIBLE EROS: THE ETERNAL CREATIVITY OF EVERY SELF

(i)

The whole man complete is the holy man; for "ye are complete in the Godhead."

(After ST. PAUL, *Colossians* ii. 9 and 10.)

THE eternal[1] will of every man is the will to the creation of the whole man, a being of ever increasing variety in unity and of ever increasing unity in variety, a man complete in all his parts, aspects, and activities.

The whole man as thus complete is the holy man, or, as great philosophers have also taught us to say, the good man, or the perfect man.

This eternal will, we may, with Immanuel Kant (1724–1804), call the good will, the sovran faculty of every man. It implies an eternal creativity in every self.

This good will is the will to the whole man, as a unique being; not the will merely to wholeness, as a general quality derived from every whole being by abstraction of its individual uniqueness: it is the will to the wholeness of this particular being, and therefore a wholeness that is itself unique,—another form of the supreme paradox of logic.[2] To substitute mere wholeness for the whole man is an error graver far than that of the utilitarian who would make the end of living not uniquely happy men, but a happiness that is universal and so, having no degrees or varieties, is without value.

[1] Eternity is not duration, but the spirit of duration.

[2] Cf. "It is the meekness of Ruth not meekness" (*Pursuit of Psyche*, by W. J. Turner, p. 42).

The whole man ! To analyse with logical completeness the manifold essential implications of the whole man, a universe in himself, is clearly impossible for any man, alike partial and incomplete himself, indeed far, far distant even from his present imperfect vision, idea, and ideal of the whole man.

Yet the whole man is a theme sublime upon which to intend our vaticinating minds ! Truly we cannot now comprehend it and thus make full and final comparison ; yet can we by prophetic apprehension possess its sentiency in measure sufficient for germinating comparison.

What, then, are the emotions, thoughts, and imagery that sentiency awakes within us ?

Let us dwell yet again for a while on a famous myth of The Buddha that has more than once evoked the spirit of our exposition.

(ii) THE BUDDHA AND THE GNAT

In the belief that He had attained unto the last stage of perfection the Buddha was about to abandon existence in finite space and time, to relinquish all sorrow and suffering for the pure being of bliss universal and eternal.

At that moment a buzzing gnat was snapped up by a passing bat.

" Stay ! " mused the Enlightened One, " the state of perfection I am entering is but perfection of myself, a unique perfection : my wholeness is a unique wholeness : not yet then am I a being universal. Other beings still suffer imperfection, existence, and resultant death. Compassion unto these still awakes within me when I contemplate their suffering.

" The way of life unto perfection I have, in truth, and in deed, illuminated for them : but can they tread that way without me ?

" The unique perfection of myself I dreamed, the perfection of my own character and personality is but imperfection while

one other being—one single gnat—still suffers imperfection of its identical kind.

"No being may reach bliss alone: all must reach it together, and that, the unique bliss proper to each. For am I not in every other being and is not every other being in me?"

With still small voice in every self thus speaketh The Buddha, by its inspiration to inner character, its aspiration to outer personality, perpetually transmuting this self into not-self, each reality dependent on the other, an everlasting way of life to tread to perfection of each, of all.

(iii) THE RIDDLE OF THE WHOLE MAN COMPLETE

Do we not, indeed, realise the ideal of the good man, the idea of the whole man, the image of the perfect man, as a spirit and a form for ever developing in every direction, alike inner and outer, with the expanding experiment and the resultant experience of our perpetual pilgrimage on the way of life unto perfection?

How, then, shall we analyse the whole man complete!

Confronting us again is that formidable barrier we have repeatedly encountered in this our story of the constitution of man—the barrier we hoped to have surmounted in our interpretation of the will—the barrier that there is that in the whole which is not contained in the parts, the whole itself.

Still more formidable is another barrier to a fully logical analysis of the whole man: whatever else the whole man may be, he must at least be a completely logical being on pain of error still subsisting in him, and thus the whole man must inherently transcend any expression of his logical completeness other than the manifestation of the whole man himself.

As incomplete beings we must, then, be content with an incomplete analysis at each present stage of asymptotic[1]

[1] Approaching (to the perfect man) without finite limit.

development towards our ultimate destined wholeness, or perfection.

(iv) THE CARDINAL VALUES IN THE WHOLE MAN

On the basis of our attempted analysis of the constitution of man, itself inevitably but an imperfect thing, we offer a first approximation to an analysis of the whole man by considering what appear at present to be the cardinal values in that good will by whose creative capacity the whole man is to be gradually developed.

This good will to the whole man is both transcendental (or spiritual) and empirical (or natural) ; it embraces, as superhuman, the spontaneous will to the completely ethical man, inspiring the man natural and human : it embraces, as superorganic, the spontaneous will to the completely logical man, inspiring the man natural and organic : it embraces, as supermechanical, the spontaneous will to the completely æsthetic man, inspiring the man natural and mechanical.

From the inherent constitution of the whole man these partial ends or values are achievable, never in isolation, but ever in conjunction with each other ; so that the movement, ultimately asymptotic, towards the far-off, whole or good or perfect man, proceeds equal step by equal step in all three cardinal spiritual achievements, no one of the three, a trinity in unity, before or after the other.

This implies the gradual creation by the individual's good will of the justest ideals, the truest ideas, the sublimest imagery, each commensurate with his own unique genius, whereby that individual may continually project himself into manifold existence with increasing wholeness in the natural world of space and time.

(v) EROS IN ORPHISM

In our first analysis of the creative will (whether of man or of nature), for the better understanding of our inter-

pretation, we have made use of those intermediary categories of the man spiritual (or nature spiritual), namely, idealisation, ideation, and imagery.

Yet deeper delving than even these great traditional words are the purely spiritual categories composing them : these, if we have not greatly erred in our interpretation and description of the constitution of man in nature and of nature in man, are superfeeling, superintelligence, and supersense, being the respective supernatural substratum, substance, quintessence—name it as you wish—of natural feeling, natural intelligence, and natural sense.

The corresponding adjectives are superemotional,[1] superintellectual, and supersensuous.

To understand more fully these deeper potencies of the transcendental (or creative) will we may usefully steep ourselves for awhile in the mythopoesie of the ancient Hellenes and develop to maturity, if may be, the seeds that germinate in our minds from contact with those ever fresh and fertilising waters, in the firm faith that such profound interpreters of life can offer us the inspiration alike of illuminating wisdom and of consummate beauty.

There is a great word we have so far used but rarely in our essay : that word is " love."

So much may "love " signify, and yet so little : so exalted may be its scope, and yet so mean, that often have we despaired of reaching a suitable point for its systematic introduction into the categorical part of our theme ; yet never has it been absent from our heart.

It is to love spiritual (or transcendental) that here we refer.

What say those Hellenes of Eros ?

Hesiod names Eros the oldest born of the gods : others of their seers pictured Eros as the youngest.

[1] This word is selected, as " feeling " appears to have no corresponding adjective.

In truth both views are just ; for that which is, and never ages, must be alike oldest and youngest. Love as divine has neither beginning nor end : it is Eternity itself.

Orphism has also significant truths concerning Eros. In ancient days that great religious movement became profoundly influential over civilised Europe and the Near-East ; for two centuries, from about 600–400 B.C., it was the dominant cultural force in Hellenism.

Of Orphism and its partner, the Eleusinian mysteries, scholars have given many varied interpretations.

Here we are concerned with a limited aspect only.

In the philosophy of Orphism, Eros is the universal spirit of creative potency in all individual beings or selves, those selves subsisting inchoate in the *Night* of *Space*.

Conjoined with *Chronos* (*Time*) this spirit creates the whirling egg (spatio-temporal) wherefrom every being moulds its own unique series of conceived forms, impassioned by love thereto. Eros is thus also *Phanes*, phenomena (form)-creating.

Emerged into space-time Eros is further justly termed *Protogonos*, first born.

This rapidly rotating egg divides into two halves, Heaven and Earth, or the spiritual and temporal elements of every being, Dionysiac and Titanic respectively.

As disposition to an imagined end so illumined by burning passion as to leave all else in night, Eros is also both creative fire within yet blind without.

Love or Eros, in fine, as subjective spirit is the eternally creative will of every self, that impassioned disposition to the realisation of idealised imagery conceived in the self ; and as objective spirit Eros, or Love, is the counterpart of that creative will, the spiritual personality. Yet there are not two spiritual Loves but one spiritual Love, one spiritual Eros, in each unique self.

(vi) EROS AND PSYCHE

The myth of Eros has a significant sequel in "Eros and Psyche," a fable narrated by Apuleius [1] in *The Golden Ass*, a work of strangest mingling of obscenity, beauty, and sublimity : yet does not the lovely rose bloom from the dung at its roots ?

This loveliest of all occidental fables we interpret as symbolising in Eros every man's divinity, loving guide and spiritual inspirer of Psyche, his natural soul with its multifold propensities,[2] in her long labour by the way of life towards its perfection that is bliss and its bliss that is perfection.

(vii) TRANSCENDENTAL SIGNIFICANCE OF THE INTERNAL EROS [3]

In the transcendental language of our interpretation of the constitution and destiny of man, the Eros within us, the invisible Eros, or Love inner and spiritual, is the creative will, synthesising the superemotional, the superintellectual, and the supersensuous, and each of these, alike superhuman, superorganic, and supermechanical, in our experimental development of our Psyche through her successive incarnations towards her predestined, though indefinitely appointed, consummation.

[1] A writer of the second century (A.D.).

[2] In the sense so carefully defined by Professor William McDougall, of Harvard University.

[3] There is a close analogy between the mythology of the Hellenic Eros and Psyche and that of the Adi-Buddha (the primordial Buddha)—original spiritual source, through whose union with Prajna, the primordial female energy, were produced the Dhyani Buddhas, successive re-incarnations by whose meditation (dhyana) were evolved the *bodhisats* (the enlightened ones), precursors of a pre-destined Buddha saviour of the world.

Spiritually similar (though sadly ascetic in its depreciation of this marvellous body of man) is also the Persian poet Jami's interpretation of Zuhrah and Salaman at the close of his elaborate, allegorical poem *Salaman and Absal*, well-known to English readers in FitzGerald's fine paraphrase.

(viii) THE WHOLE MAN

" But let patience have her perfect work, that ye may be perfect and entire, wanting nothing " (St. James i. 4).

The holy man, the perfect man, is thus he who in the entire spontaneity [1] of his creative love and in each of the three cardinal realms of nature, material, vital, and social, has fulfilled all duty, developed all truth, and realised all beauty, each to its utmost potentiality in his natural self.

The holy man is thus the incorporation of loving duty, the incarnation of impassioned truth, and the embodiment of ardent beauty : the holy man alone is a whole man, and the whole man alone is a holy man.

(ix) A COSMIC SOCIETY

" Ye are builded together for an habitation of God through the (Holy) Spirit." (PAULINE : *Ephesians* ii. 22.)

Yet not in isolation comes such achievement to any man, or even approach thereto ; for the selves of all beings, *bound together in the bundle of life with the Lord* (*their*) *God*,[2] are interdependent in spirit and compenetrant with each other in ensouled body and embodied soul ; and thus in ultimate destiny, the asymptotic approach of one single being towards its own unique perfection implies the like achievement of all others, each in their respective and individual potentialities, " each the first and last of its identical kind," a society of enchanting variety in unity, of harmonious unity in variety, each member active in loving beneficence towards every other ; a society of selves that constitute their own environ-

[1] See fn. 1, p. 363. Cf. *bhakti* (Skr.), loving devotion.

[2] The (Jewish and Christian) Bible : 1 Samuel, xxv. 29 : a profound text pondered centuries long by Judaic sages and saints. Has modern science or modern metaphysics any interpretation of life's mystery to offer so satisfying even to modern man ? The ultimate fate of David's " enemies " is not our concern : though we surmise that it inspired a cardinal proposition in the system of Spinoza, so thoroughly versed in Rabbinical wisdom.

ment, alike material and æsthetic, vital and cultured, human and ethical.

Such a society in a past now determinable by man hath never been, nor, in a future now determinable by man, will ever be ; yet have we not, inspired by the noblest lives of our ancestors and contemporaries, at our own supreme moments of insight and far-sight, a sentiency sublime that space-time will, at long last, become woven into those patterns of selves that approach their unique and blissful perfections, " each the first and last of its identical kind."[1]

(x) DUTY, TRUTH, AND BEAUTY AS WOVEN INTO CHARACTER

Woven of space-time elements by each and every man, his ideals, ideas, and imagery of goodness, truth, and beauty become his virtues, the very texture of his character that endures.[2]

That which each man recognises as virtue, with the qualities of goodness, truth, and beauty, is subject to the irreducible, categorical conditions of space-time, subsisting in THE ABSOLUTE : only in this limited sense can virtue become our possession.

Goodness, truth, and beauty, thus won, are the unique possessions of every self : they are not infinitely creatable, communicable, or partakable : transcendental spirit of all real beings, they become real by taking on form, either material, or vital (material and organic united), or anthropomorphic (material, organic, and human united).

Virtue is realisable only in the physical, or the living, or the anthropomorphic realms of nature, and is subject to the mathematical limitations of becoming and being in those realms.

Not the expression of playful fancy, but of sober reality, are the famous lines of Wordsworth on the spirit of duty,

[1] A phrase borrowed, in another context, from the distinguished biologist, Professor F. A. E. Crew, if my memory here is accurate.

[2] Cf. also Hallett, *Æternitas, a Spinozistic Study*. See Index.

incorporated in those majestic beings, the stars, in his sublime *Ode to Duty*.[1]

Goodness, culture, and art, and the love that creates them, become real only at the expense of space and time : by the beating of the heart, by the sweat of the brow, by the labour of hands and feet, by spontaneous service—by these alone become they our possessions : no man can give them to another : each must win them for himself.

(xi) ALL PROPERTY IS SPIRITUAL, WHATEVER ITS FORM

Every material thing, every vital thing, every human thing, has its own unique form, but is itself spirit.

I call this sovereign my material property ; yet, like myself, that gold coin is spirit with an embodied form of its æsthetic spirituality ; it is itself creative will, uniting idealisation, ideation, and imagery, and, in each of these aspects of its spiritual being, it is supermechanical : in each of these spiritual realms of being I act upon it and it reacts upon me.

Of this sovereign I am the spiritual property in measure precisely equal to the measure wherein that sovereign is the spiritual property of me.

[1] 1805. The Latin quotation accompanying the Ode is remarkable : " Jam non consilio bonus, sed more eo perductus, ut non tantum recte facere possim, sed nisi recte facere non possim."

> " Thou dost preserve the stars from wrong,
> And the most ancient heavens, through Thee,
> are fresh and strong."[2]

Clement of Alexandria (A.D. 150 (?)–202 (?)), condensing certain famous passages from his *Stromata* (Book IV), might well have paraphrased the above Latin passage thus : virtue is good habit become nature and the saint is holy in his dreams. " The virtuous man knoweth not his own virtue." See also section (viii) above.

[2] Compare the words of the dying Pervaneh in " Hassan " : " We are in the service of the World. The Voice of the rolling deep is shouting : ' Suffer that my waves may moan.' The company of the stars sing out : ' Be brave that we may shine.' " (James Elroy Flecker, 1884–1915 ; as quoted by Herbert E. Palmer in *The Bookman*, September 1932, p. 284.)

The æsthetic, in its proportions of beauty to ugliness, is thus the cardinal spiritual basis of all material property, and of all economies of such property.

The æsthetic has been the most misunderstood and neglected aspect of the economic science of material property, yet in reality it is fundamental.

In the economic arts of material production the function of the æsthetic has been less neglected ; yet the rôle of individuality and quality of goods is destined, once the æsthesis of manufacture is clearly conceived by the leaders, to an importance in commerce that is unimaginable in times of standardised mass-production ; and that importance will increase in equal step with the æsthetic development of the citizen who makes the goods, the citizen who distributes them, and the citizen who consumes them.[1]

> I call this dog my living "property"[2] : yet, like myself, the dog is spirit. It has, indeed, a unique individual form of its æsthetic and conceptual spirituality, alike embodied as mechanism, and incarnate as organism ; yet it is itself creative will uniting idealisation, ideation, and imagery, and each of these aspects alike superorganic and supermaterial.
>
> In each of these aspects of our spiritual being, I act upon the dog and the dog reacts upon me ; and of this dog I am the spiritual property in measure precisely equal to the measure wherein that dog is the spiritual property of me.[2]

Just as the æsthetic (the supermechanical) is the cardinal spiritual basis of all material property and thus of all economics of such ; so are the supermechanical and the superorganic

[1] The late Professor Sir Patrick Geddes, inspired by Ruskin, pointed out some forty years ago the vast import of æsthesis. Compare, he suggested, the value of the goods consumed by an aboriginal with the value of those consumed by an average cultured European : it is safe to put the ratio, at highest, at 1 to 10 ; thus the luxuries (æsthesis) of the European are at least nine times in value his "necessities," measuring the latter by the aboriginal's standard of life.

[2] "'This dog is mine' : . . . 'this is my place in the sunshine' : in such expressions we may detect the germ and image of a tyranny that would extend itself over the whole earth" (*Thoughts of Blaise Pascal*).

the cardinal spiritual bases of all living property, and thus of all economics of such ; and the like consequences follow in the corresponding economic science and the corresponding economic arts.

Similar propositions obtain in social economics, with its social science and social arts.[1]

[1] For specific policies in education and statecraft based upon the constitution of man, see the author's *Janus and Vesta* (1916).

CHAPTER LIV

THE VISIBLE EROS

The spiritual personality. "This is a great mystery."
(*Ephesians*: v. 32.)

(i) DIAGRAM OF THE OUTER SPIRITUAL MAN

OF the four great regions of the constitution of man, the inner natural and the outer natural, the inner spiritual and the outer spiritual, we have made a systematic survey of the first three.

There remains the outer spiritual, whereby and wherein may be spiritually perceived the outward manifestation of the inward and spiritual state, as, from a religious standpoint, of grace or of sin.

The breath, the tone of voice, the word, the look, the bearing, behaviour, and conduct, the achievement, be the last the family guardianship of a mother, a statesman's policy, an artist's picture, a gardener's pruning, a soldier's drill, an actor's performance, a mechanic's craftsmanship, a doctor's ministration, a lawyer's advice, a financier's calculations, a lover's courtship, each and all have their natural forms and each and all are spiritual manifestations, true witnesses of the like spirit within.

At this point we venture to suggest that it will be found useful to contemplate with a serene and open mind this part of the picture of man's constitution as a whole in order that the synthetic articulation of the elements may be seen more distinctly, and that the relative simplicity of the composition may produce its just impression.

We therefore transfer here for the reader's convenient contemplation and subsequent meditation the fourth and last

quarter of the whole diagram of man's constitution in the frontispiece to the essay (p. x.)

The like diagram also represents the constitution of nature ; and, *mutatis mutandis*, statements relevant to man the microcosm apply also to nature the macrocosm. But in this essay our principal theme is not nature but man : not the great god Pan, but *deus mortalis*, the little god Man. Still less do we yet venture an essay upon the supreme experimental science, theology, with its transcendent theme, DEITY. (See also pp. 44, 45, and 195–206.)

ethical personality	logical personality	æsthetic personality	spiritual personality
ethical body	logical body	æsthetic body	spiritual body
ethical function	logical function	æsthetic function	spiritual function
ethical environment	logical environment	æsthetic environment	spiritual environment

DIAGRAM 17

Let us now consider this last diagram systematically, though also briefly, as we have implicitly dealt with several of its aspects in previous chapters.

(ii) THE SPIRITUAL BODY

"There is a spiritual body and there is a natural body."
(ST. PAUL)

The natural body we have already described ; how shall we interpret the spiritual body ?

In the immediately succeeding sections our theme is confined to the self we know as man : but its application to other living selves and to material selves is not difficult.

The spiritual body is to the inward ideal (more profoundly interpreted, to the superemotional) as the natural body (the empirical body) is to natural feeling. Yet there are not two bodies but one body.

And as the natural body has its human, organic, and material forms, so is the spiritual body ethical, logical, and æsthetic, (or, more profoundly interpreted in the language of ontology, superhuman, superorganic, and supermaterial).

(iii) SPIRITUAL FUNCTION

As the natural function of the natural body is to natural intelligence so is the spiritual function of the spiritual body to ideation, (or, in the profounder language of ontology, to the superintellectual). Yet there are not two functions but one function.

And as natural function has its material, organic, and human forms, so is spiritual function æsthetic, logical, and ethical, (or, in ontological interpretation, supermechanical, superorganic, and superhuman).

(iv) SPIRITUAL ENVIRONMENT

As the natural environment of the natural body is to natural sense so is the spiritual environment of the spiritual body to imagination, (or, more profoundly, to the supersensuous). Yet there are not two environments, but one environment.

And as the natural environment has its human, organic, and material forms, so is the spiritual environment ethical, logical, and æsthetic, (or, in the cardinal terms of our ontology, superhuman, superorganic, and supermechanical).

(v) THE SPIRITUAL PERSONALITY AS OBJECTIVE SYNTHESIS

Finally, as the natural personality is the objective synthesis of the natural body, its natural function, and its natural environment, so is the spiritual personality the objective synthesis of the spiritual body, its spiritual function, and its spiritual environment. Yet there are not two personalities, but one personality.

And as the natural personality has its human, organic, and mechanical forms, so is the spiritual personality æsthetic, logical, and ethical, (or, ontologically defined, supermechanical, superorganic, and superhuman).

(vi) THE LAW OF CORRESPONDENCE

"All the building fitly framed together groweth unto an holy temple in the Lord."

(PAULINE)

The law of correspondence already considered in the theory of the microcosm and macrocosm—a theory describable here as a philosophy of similitudes—may be applied further to illuminate the correlations in the constitution of man.

For, as the spiritual will unites, integrates, and transcends ideal, idea, and image throughout time, so does the spiritual personality unite, constellate, and transcend the spiritual body, its spiritual function, and its spiritual environment throughout space—and this alike in all three realms, superhuman, superorganic, and supermaterial.

And just as there is a certain correspondence between the natural (or empirical) personality and the natural will, so is there a similar correspondence between the spiritual (or transcendental) personality and the spiritual will.

To every experience, from small to great, that the natural will doth suffer[1] in sense, intelligence, and feeling—and each of these alike mechanical, organic, and human—corresponds its empirical personal manifestation, down to minutest cell and element of the natural body and every constituent part throughout nature contributing to the personality.

So to every experiment, from small to great, that the spiritual will doth enjoy[1] in idealisation, ideation, and imagination—and each of these alike ethical, logical, and æsthetic—corresponds its transcendental personal manifestation down to the spiritual quality of minutest cell and element of the natural body and every constituent part throughout nature contributing to the personality.

Every minutest element, cell, and organ of the body, reacting to the spiritual will, and developing under that master-weaver, incarnates its ideals, ideas, and imagery, whatsoever their kind and quality and intensity,—be it of love or hate, generosity or avarice, benevolence or malevolence, mercy or cruelty, temperance or lust and greed, modesty or vanity, humility or pride, justice or injustice, magnanimity or pusillanimity, envy, jealousy and all uncharitableness, industry or idleness, wisdom or worry, beauty or ugliness, humour or fanaticism, elasticity or rigidity, sweetness or sourness, tenderness or harshness, patience or impatience, loyalty or treachery, sincerity or hypocrisy, joy or sorrow, hope or wanhope.

And this law of correspondence is dual ; it lives and works not alone in each and every man as individual, but equally between all men as in communion. Selves are interpenetrant ; and no man lives unto himself alone.

Lies not here, in the dual working of this cosmic law, the significance of the Pauline " sanctification and cleansing " through " vicarious " sacrifice or experience ?

[1] " Suffer " and " enjoy " are here used to mark the distinction between the necessity characterising experience and the spontaneity characterising experiment : no implication is made as to the painful or pleasurable, baleful or blissful, quality thereof.

And is not here, too, the interpretation of the famous Aristotelian catharsis (κάθαρσις) as the unity in duality of the simultaneous spiritual purification and bodily purgation of the spectator by great tragic drama—again through " vicarious " experience, and therefore cheerfully accepted as spiritual guide—an interpretation, surely, befitting the personality of Aristotle, pupil of " the divine " Plato and descendant of that famous family of priest-physicians who claimed descent from Æsculapius, ancient god of healing, to whom the dying and grateful Socrates, purest and wisest and healthiest of Hellenes, gave instructions for the customary offering to be sent ?

Truly, through the mighty voice of his drama, as great lover of his fellow-beings, the poet speaks to us in the spirit of Shelley's *Love's Philosophy :*

> " Nothing in the world is single ;
> All things by a law divine
> In one another's being mingle—
> Why not I with thine ? "

and simultaneously reveals himself unto us, and us unto ourselves.

(vii) THE ROOTS OF HEALTH AND DIS-EASE : AND THE HEALING ART

> " Je suis persuadé qu'un jour viendra où le physiologiste, le poète et le philosophe parleront la même langue et s'entendront tous."
>
> CLAUDE BERNARD (1813–1878).

If Hippocrates (460–*c.* 370 B.C.), " Father of Medicine," and himself an Asclepiad, did well for his own and all after ages in freeing Medicine from its ancient, crippling superstitions, poison-germs of irreligion, and in placing it upon a scientific basis of its own, of which it is sole and proper judge, no less vital is it, in this our own age, and now more deeply than ever of old, to realise once again, in their noble and necessary services to mankind, the interdependence of physician and priest.

And not these two vocations alone. The Aristotelian

catharsis itself is no more, if no less, than a manifest symbol of the deeply-rooted Hellenic faith in the healing function of the artist, who transports us into the re-creative realm of dreams.

When the measuring instruments of the physician unite with the spiritual touch of the saint, the spiritual ear of the sage, and the spiritual eye of the artist, then shall science enter the inmost laboratory of health and dis-ease, of wholesomeness and unwholesomeness, of comeliness and deformity, throughout this marvellous body of man at its every point and part ; and then shall the Science and Art of Healing recover its root-significance as the Science and Art of the Whole Man.

ENVOY

Here ends the tale of our travels. On our chart are shown the regions we have visited : these we have described as best we could.

May the happiness brought us by our exploration communicate itself to our readers ; and may our modest chart of these inexhaustible regions be extended by travellers that follow.

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