

In the genesis of the kosmos there appear to be three great undulations in the universal current of life. The first of these prepares the field by depositing that elemental essence which is to become the world-plasm; the second precipitates the universum of materiality, spatiality and intellectuality, not as we now know them, of course, but as potencies; the third great undulation in the current of life effects the endowment of the world-plasm with those tendencies that are to build around themselves forms appropriate to their fulfillment. This ensoulment of the world-plasm with tendencies and the consequent segmentation of it into separate forms by these tendencies constitute the primary stages of that procedure of life which results ultimately in the up-raisement of matter and its final exaltation into pure spirit. Hence, the entire mass of materiality is besieged on all sides by the sum-total of life and the former is being raised slowly and irresistibly to heights that are immeasurably more sublime than its present degree of grossness.

It appears paradoxical, therefore, that life, although in all respects vastly superior to matter, should become the apparent vassal of materiality and give itself up to all the strict rules of imprisonment which are imposed upon it by the properties and qualities which we observe in matter. It seems so subject to every whim and fancy of matter that one is inclined to think that matter and not life is the chief designer of universal destiny. This is not a condition to be wondered at so much, for the reason that this apparent vassalage, this seeming enslavement of life by matter, is due to that superior and most marvelous adaptability of life which it enjoys

in contradistinction to the relative unpliability of matter, and due also to the fact that life is kinetic and matter, being a mere deposit of life, is static. Life is mobility while matter is immobility and thus in possessing a greater range of freedom is, of course, correspondingly superior; but in this adaptation of itself to the labyrinthine cavities and multiformed interstices in matter it exhibits but a seeming serfdom which is really not a serfdom but a mastery. It is as if a man had taken lumber, hardware and stone and built a house wherein he might dwell—life has merely used matter, molded and fashioned it so as to make for itself a medium, a dwelling-place wherein it operates, not as a slave but as a master possessing unlimited freedom of motility. In the production of a form life stamps upon it, once for all time, the path of its engendering action. It leaves its finger-prints upon the mold which it makes for itself. So that if we would know where life *has been* or where it *is* we should look for its finger-prints (organization); we should observe the sinuosities which mark its pathway, remembering always that it is life that has formed the intricacies and complexities of the form into which it pours itself so accommodatingly in order that it may raise that form, develop and transmute it into something higher and better.

When we speak of *form* it must not be understood thereby that reference is made only to the gross physical form, but to the entire range of vital assumptions or vehicles which life ensouls for purposes of manifestation. This range we believe to cover the whole path of kosmogogenesis seriating from the densest to the most subtle. Our chief concern, however, is

the immediate effect which the totality of life's operations will have upon humanity or the form which it ensouls as the human organism. For it is impossible that humanity shall escape either the general or the specific results of the exalting power which life exerts over materiality and its appurtenances. It is, of course, impossible here to go into the various implications of this general forward movement of the universum of materiality or even to outline briefly the divergent lines of operation into which a satisfactory exposition of this view would naturally lead. And then to do so would be inappropriate in a volume of this kind. So we shall have to be content at this juncture to limit our study to a consideration of what we believe to be some of the immediate indications of this vast and most far-reaching phenomenon.

In the chapter on the "Genesis and Nature of Space" it is shown that the material universe is engendered at the same time and by the same movement or process as the universum of spatiality and intellectuality and that as the passage from chaos to kosmos proceeds the function of this movement is changed gradually from engenderment to exaltation wherein materiality is transmuted into spirituality. It is, of course, obvious that as materiality is exalted so are spatiality and intellectuality; and that as the one becomes more and more refined, capable of answering to higher and yet higher requirements so do all the others. For, at work in all and through all of these, is the current of life which pervades them, engendering, sustaining and elevating as it proceeds. So that as matter has evolved added characteristics and properties, each answering to a given need and

arising out of the necessities inhering in the stage at which it appeared, so has the intellect evolved faculties to correspond therewith. In other words, the evolution of faculties for the expression of the human intellect has proceeded synchronously with the evolution of material qualities. And whenever a new faculty or an additional scope of motility is achieved by humanity there is always found a set of kosmic conditions which answers thereto. The cardinal principles of the doctrine of evolution are not, therefore, adverse to the conclusion that the organs of sense-perception—hearing, touch, sight, taste and smell—have not been endowed upon the human race or attained by it at one time; but rather that each answering to a newly acquired need and opening a wider scope of motility for the intellect has been evolved separately and in due order. It would also seem that the quality of consciousness, as it has been manifested in the various stages of life through which it has passed, and especially the mineral, vegetal and lower animal, has not always been of the same degree of efficiency. Nor has it enjoyed the same kind of freedom which it now enjoys in the highly evolved *genus homo*. It is equally apparent that matter itself has not always been in possession of the same qualities and characteristics which it now exhibits; but that it, too, has gone through various stages of evolution bringing forward into each new stage the transmuted results of each preceding one as a basis for further evolution and expansion. The innumerable archæological evidences which support this view make it unnecessary to do more than state the facts, as they appear to be substantiated by indubitable testimonies. Further-

more, it is believed that the outstanding implications of these phenomena will not be successfully controverted by those who are disinclined to see such implications in the evolutionary process. In a previous chapter we have briefly sketched the characteristics which mark the upspringing of a new faculty showing how, at first, it appears as an abnormality which exhibits itself in a very few individuals only, and that in a more or less indefinite manner; and how later the number of individuals in which it appears gradually increases, the definiteness of the faculty, at the same time, appearing more marked; then, like a tidal wave, it recurs in a still larger number of persons until, at last after a long period of time usually several thousands of years, it becomes universal exhibiting itself in every individual and appearing as a hereditary characteristic of the entire human race. It is, therefore, not without assurance as to the ultimate soundness of this view that we make the assertions which follow this brief introduction.

It has already been stated that for a very obvious reason, namely, the satisfaction of the needs of our present humanity, the intuition is for the time dominated by the intellect and held in subjugation by it so that all of man's external operations are governed and dictated almost entirely by the intellectuality, allowing the intuition only rare moments when it can come to the fore at all. This is the rule in the evolution of faculties and characteristics. The higher faculty, although potentially present in every way, is ever held in abeyance while the lower is brought, under the rigors of its own evolution, to a point where its joint operation with the higher may be executed with

the least possible friction and retardation as also with the greatest possible coördination and coöperation. Accordingly, notwithstanding the fact that materiality must possess in potentiality all the qualities which it will at any time reveal, it is nevertheless necessary that these qualities shall come forth gradually and in due order. Similarly, humanity has come into possession of its various faculties of mind, and powers of physiological functions, by insensible degrees, the higher always being held in abeyance until the lower is fully developed. Those faculties which are to bestow added powers, additional freedom and a greater scope of motility are the ones which appear later than those which are truly primitive in character. These facts have been amply demonstrated by the science of embryology wherein it is shown that *ontogeny* is a recapitulation of *phylogeny*. That is, the history of the development of the individual is a recapitulation of the development of the species. Thus the various stages of development through which the human embryo passes while *in utero* are but a repetition of similar stages through which the entire human species has passed in its phylogenetic development. Wherefore, it is certain that humanity has not attained, at one and the same time, all the powers of mind and body which it now possesses; that the childhood of the human race represented a time when it had but few faculties or organs of sense-perception—indeed a time when the higher sense-organs of smell, taste and sight were entirely lacking although residing in potentiality therein.

It is undoubtedly true that the earth has passed through a similar evolution with respect to its own

material characteristics, that its childhood was, in all points, analogous to the childhood of humanity; that the air, earth and water were wholly absent, except in potentiality, during the nebulous youth of its genesis. It is even probable that there are at work to-day processes which in the future shall culminate in the evolution of newer, higher and more complicated organized species of plants, animals and minerals. Every year brings fresh evidences that crystallize the conviction that the earth has been the scene for the appearance of many strange orders of animal life. Fossiliferous strata are continually yielding incontestable testimonies of changing flora and fauna. We count the animal and vegetal life of to-day as being more highly developed than that of any other previous age, and it is well that this is so, for simplicity of organization and primality of manifestation are always succeeded by complexity and a greater scope of adaptability.

We have said that the whole of that movement of the intellect which has brought forth the meta-geometrical creations of hyperspaces, the curvature of space and its manifoldness together with the entire assemblage of mathetic contrivances are merely the early evidences of the appearance in the human race of a new faculty, a new medium of perception whereby the Thinker shall acquire a still greater range of motility than that now offered by the intellect. Attention has been called also to the fact that this phenomenon has been manifested not alone in the field of mathematics, but in art, religion, politics and also in science in which we have only to witness the marvelous strides already made in the discovery of radio-active

substances, the ROENTGEN, BECQUEREL, LEONARD and other kinds of rays. It is quite confidently believed that these forward movements in every branch of intellectual pursuit, these combined efforts of the intellect, in peering into the occult side of material things, are in response to the evolutionary needs of the Thinker, and in addition, are the evidences, and shall in time be the cause, of the development of an additional set of faculties. Function, or the performance of acts, determines faculty or the power of action and ultimately the organ itself. Thus the mere wish to perform aroused by desire and vitalized by the will actually terminates, in the course of time, in the genesis of a faculty, or the power to perform. The constant upreaching yearnings of the Thinker through his intellect for greater freedom and a larger scope of action, the desire to peer into the mysteries of life and mind, the infantile out-feelings of the mentality after some safer and surer basis for its theory of knowledge cannot fail in producing not only the faculty or power to satisfy these cravings but the very organ or medium by virtue of which the satisfaction may be attained.

It is not strange that in mathematics the intellect should have found first the clue to the existence of a higher sphere of intellectual research wherein it might become the creator of the various entities which peopled the new found domain; it is not strange that the mathematician should, in this instance, have assumed the role of the prophet proclaiming by various mathetic contrivances (although unconsciously) that the human race is nearing that time when it shall actually be able to function consciously in some higher

sphere; neither is it to be wondered at that the voice of the prophet is heard and respected throughout the earth; for, indeed the mathematician is a spokesman who, as a rule, is unmoved by sudden outbursts of passion and ecstatic frenzies of emotions but calmly and dispassionately verifies his conclusions, tests them for consistency and having found them to satisfy the most rigorous mathetic requirements hesitates not to propound them. For this cause humanity respects the mathematician, and when he speaks listens to his voice. It is well, too, that this is so; for the history of mathematics is clearly the history of the development of the intellect. So exact a determinator of the quality of intellectual efficiency is it that its reign may be said to be an absolute monarchism whose lines of dominance extend to the minutest desire or appetency. It has always been the guide of the intellect, going before, as it were, blazing the trail, pushing back the frontiers of the intellect's domain and clearing away the *debris* so that the intellect with its retinue of servitors might have an easy path of progress.

Mathematics, however, has not the aptitude to serve the intuition as it serves the intellect. So the path into which the intuition would lead humanity the mathematician, because of his training and peculiar functions, is unprepared to enter. It is for this reason that when mathematics leads the intellect up to that point where it encounters life it fails, it becomes confused and its dictatorship becomes a mockery, its decrees remain unexecuted and futile. In taking this view we have certainly no desire to offend the mathematician or to detract from the glory of his monarchistic rulership over the intellectual progress of the

race; for, in truth, mathematics is the diadem of gold wherewith man has crowned his intellect. Yet it is well, yea imperative in the light of recent developments in the realm of hyperspace, that a careful discrimination should be made as between the sphere of the intellect and that to which the intuition shall attain.

The intuition, long held in abeyance until the intellect should be fully crowned and reach the zenith of its powers, is now coming to the front. It will be many centuries perhaps before it shall have grown to such proportions as those already attained by the intellect; perhaps a few thousand years may pass before the intuition shall have evolved to that point where it may labor as coadjutor to the intellect; but undoubtedly the time will come when it, too, shall reward the Thinker's labors with that which shall be more precious than the crown of gold which the intellect has won. Then, the intellect, grown old and decrepit with years of reigning shall become dim and crystal-shaped and finally pass into automatism or reflexive movements where without the urge of volitional impulses it will perform with exactness, precision and utter loyalty the tasks which it has learned so well to execute in the days of its forgotten glory. Mankind will then be free. A new freedom, wherein the erstwhile lightning flashes of intuition will become fused into one glorious sheen of all-revealing light, shall come to men and thus the race resplendent will walk the earth enshrined in the majesty of divine powers attained as a result of millions of years of aspiration.

That there are supersensuous realms so far above the range of our senses as to be entirely beyond their

ken needs now no proof or argument; for the scientist has demonstrated, by the invention of instruments of extreme delicacy and precision, that such a world does really exist. Already we know of stars so distant that, though light traverses in the brief space of an hour six hundred million miles, they might have ceased to shine before the pyramids were built and yet be visible to us in the skies. If the human eye were as sensitive as the spectroscope many thousand tints and shades might be added to the world of color; if they possessed the magnifying powers of the microscope we should live in constant terror and awe of the monstrous entities that teem in the water which we drink and in the air which we breathe; and if our ears could detect the microphonic vibrations which register in the delicate apparatus of some microphones the dead, vacuum-stillness of nature's great silences would appear as a babel of voices by the seaside. The sense of touch, responding to the same range of vibrations as the micrometer, would reveal actually the interstices between particles of the densest elements; and gold, silver, platinum and mercury would seem but honeycombs of matter. But, to the forward-looking there is no element of absurdity in the expectation that all these senses shall, one day, be able to dispense with the artificial aid of physical apparatus and perform, with even greater precision and faithfulness, the task which they now perform so crudely and ineffectively. There are without doubt vibrations of taste and smell which are so far above the range of these senses that they have no effect upon them whatsoever. Notwithstanding the fact, however, that the galvanometer, microscope, the microphone,

the spectroscope and the telescope have extended thus the sphere of sense-knowledge there are yet subtler vibrations to which these delicate instruments do not and ought not be expected to respond. But to say, as do many empiricists, that since these phenomena cannot be detected by scientific instruments they do not, therefore, exist seems to be expecting too much of material means as well as exposing oneself unnecessarily to criticism on the grounds of extreme materialistic appetences.

There is indeed need of a more liberal attitude among men of science towards the world of the unseen. Intolerance of the data which it offers will for a time perhaps preserve the aloofness of scientific dogmatism inviolate but there will most surely come a reaction against the dogmatism of science and men will seek freedom and attain it despite their fetters. Sir OLIVER LODGE, in his book, the *Survival of Man*,¹ says: "Man's outlook upon the universe is entering upon a new phase. Simultaneously with the beginning of a revolutionary increase in his powers of physical locomotion—which will soon be extended to a third dimension and no longer limited to a solid or liquid surface—his power of reciprocal mental intercourse is also in process of being enlarged; for there are signs that it will some day be no longer limited to contemporary denizens of earth, but will permit a utilization of knowledge and powers superior to his own, even to the extent of ultimately attaining trustworthy information concerning other conditions of existence."

It is the author's good fortune that he has for a period extending over several years been able to verify

¹ See pp. 338, 341.

the conclusions which Sir OLIVER LODGE expresses in the above, and thus to satisfy his own mind that the process by which man's mental powers are "being enlarged" is indeed demonstrable by actual observation and experimental methods.

LODGE continues:

"The boundary between the two states—the known and the unknown, is still substantial, but it is wearing thin in places, and like excavators engaged in boring a tunnel from opposite ends amid the roar of water and other noises, we are beginning to hear now and again the strokes of the pick-axes of our comrades on the other side."

CAMILLE FLAMMARION² cites 436 cases of psychic manifestations examined by himself and which establish beyond any reasonable doubt that there are certain perceptive faculties, namely, clairvoyance and clairsaudience, that crop out in certain individuals, sometimes in abnormal conditions and sometimes normally, the very unusual character of which proves their rudimentary nature and the potency of their maturation in the humanity of the future. Among the cases cited by FLAMMARION are 186 instances of manifestations from the dying received by persons who were awake; 70 cases were manifestations received by persons asleep; 57 were observations of direct transmission of thought without the aid of sight, hearing or touch or other physical means; 49 were cases of sight at a distance or clairvoyance by persons awake, in dreams or in somnambulism and 74 cases of premonitory dreams or predictions of the

² See *Unknown*, p. 485, et. seq.

future. Indeed, there are few persons now living who have not had similar experiences, if not exactly like these, of the same nature. These examples, of course, may be greatly multiplied in every country in the world, and it is unnecessary to enumerate them further; for, when once the existence of such faculties has been demonstrated in persons, either in a normal or an abnormal condition, their presence can no longer be questioned by the fair-minded. It is, then, only a question of evolution before they will appear in the normal way and their universalization, as transmissible characters, be an accomplished fact. When we are brought face to face with this sort of phenomenon which seems to be increasing rapidly the conclusion is inevitably forced upon us that since evolution must be a continuous process and matter destined to yield higher and more refined powers and humanity to come into a far more extensive scope of motility because of the opening avenues of knowledge, it is not impossible that these acuter senses, these new faculties are now existing in the human race in a rudimentary stage and are designed to become the universal possession of all. That this is to be the almost immediate outcome of the perpetual exalting power which life exercises not alone over materiality but over human organs and faculties as well, seems to be the one big, outstanding implication of the evolutionary process. The presence of such functions as the ability to sense the invisible and the inaudible, to answer to vibrations far subtler than anything in the scope of our external sense-organs, certainly indicates the existence of rudimentary faculties which make these functions possible. *Back of these vague, indefinite*

functions, back of every supernormal or abnormal manifestation of man's mentality and back of all that class of phenomena which take their rise out of supersensuous areas must lie, in ever increasing potency, faculties and organs, however rudimentary, which are the source of these manifestations. Life, that ineluctable agent of creation, which is incessantly pushing outward the confines of the intellect's scope of motility, never wearying, never tiring nor sleeping, has long ago, in the dim and distant past of man's evolution, laid the foundations; and in fact, with one stroke of its creative hand, has molded the organs which are to become the active media of these new faculties. And now, these incipient demonstrations, these infantile struggles which we see now and again outputting from them, are but the specializing processes through which, in their later development, these organs are proceeding. These are the outward signs which should tell us that life is breaking up these organs into special parts, assigning to each a certain division of labor and making of each a perfect coördinate of all the others. It is, by these very dispread exhibitions, cutting up, specializing and by slow degrees determining the function, character and general tendence of the organs of expression wherewith these manifestations shall be centralized and put into effective operation. In doing this, it is but following its accustomed procedure, the procedure which it adopted when it produced the eye, the ear, the heart and the spleen. We shall, therefore, gauge our understanding of the purport and end of evolution; in fact, we shall determine our exact intellectual comprehension of life itself, by the attitude which we

adopt towards it and the mode of its appearance. Much depends, accordingly, upon the posture which we assume towards life—whether we shall say the totality of life's creative powers has been dissipated in the bringing of the human body to its present degree of perfection; whether we shall say that it is neither necessary nor possible for life to produce other organs and faculties which shall respond to the unseen world about us revealing its glories in a way far more perfect than do our external sense-organs reveal the wonders of the world of sensation; or, whether we shall conclude from these most palpable evidences that life has yet other powers and faculties which it designs to bestow upon the human mind and other organs and capabilities with which it shall endow the human body so that man, in his evolution, shall be enabled to rise to still higher spheres while yet incarnate. There may be, and undoubtedly are, those who, for various reasons prefer to take the former positions and there are certainly those who like LODGE, FLAMMARION, HUDSON, CROOKES and a host of others, preferring the latter view, would rather believe in the strength of the great mass of corroborative testimonies that we are even to-day in the midst of the matutinal hours of a newer, a better and a far more efficient era of human evolution than any through which we have hitherto come.

Already, recent scientific investigations and the results obtained therefrom have begun to turn the attention of medical authorities to the activities of two very small organs situated in the mid-brain and known as the *pineal gland* and the *pituitary body*. These organs, and especially the *pineal gland* hitherto sup-

posed to be a vestige of the past, are now beginning to be recognized as rudimentary organs belonging to the future evolution of humanity. Dr. CHARLES DE M. SAJOUS, who is an authority on the *pituitary body*, believes that it has no active internal secretions but is an "epithelio-nervous organ" which controls, through nerves leading to the adrenals and thyroid bone, the processes of general oxygenation, metabolism and nutrition. Little is known of the functions of the pineal gland except that it is an ovoid, reddish organ attached to the posterior cerebral commissure projecting downward and backward between the anterior pair of the *corpora quadrigemina*. It is otherwise known as the "*conarium*," the "*pinus*" or "*epiphysis*." Situated at the base of the brain, it is held in position by a fold of the *pia mater* while its base is connected with the cerebrum by two pedicles. It contains amylaceous and gritty, calcareous particles constituting the brain sand. There are, however, marked structural resemblances between the *pineal gland* and the *pituitary body* and their formation is perhaps the most interesting feature of the development of the *thalamencephalon* or mid-brain. The *hypophysis cerebri* or *pituitary body* is a small, ovoid, pale, reddish mass varying in weight from five to ten grains and situated at the basal extremity of the brain in a depression of the cranium known as the *sella turcica*, a configuration very much like a Turkish saddle in shape. It is a composite, ductless gland and consists of two divisions, an anterior and a posterior, connected by an intermedial portion—all of which are attached to the base of the cerebrum by the *infundibulum*. The anterior lobe is larger than the

posterior and very vascular, springing in its development from the buccal cavity of the embryo; the posterior lobe is situated in a depression of the anterior and is a brain-process. The *pituitary body* itself is lodged in a cavity of the *sphenoid* bone called the *pituitary fossa*. This is a most remarkable position, for the reason that the *sphenoid*, or *wedge-shaped*, bone which lies at the base of the skull articulates from behind with the *occipital* and in front with the *frontal* and *ethmoid* bones and by lateral processes with the *frontal*, *parietal* and *temporal* bones. From this position it binds together all the bones of the cranium, and moreover, articulates with many bones of the face. It is upon the upper surface of the *sphenoid* bone which occupies such a prominent and commanding position in the cranium, in a deep depression, that the *pituitary gland* is located.

Each nasal chamber is lined by a mucous membrane called the *pituitary* or *Schneiderian*. This membrane is prolonged into the meatuses and air sinuses which open into the nasal chambers. The *pituitary* membrane is thick and soft and diminishes the size of the meatuses and air sinuses. It is covered by a ciliated columnar epithelium and contains numerous racemose glands for the secretion of mucous or *pituita*. It is also vascular and the veins which ramify it have a plexiform or net-work like arrangement. It divides into two membranes—a respiratory, which is concerned in breathing, and an olfactory region. The respiratory region corresponds to the floor of the nose, to the inferior turbinated bone and to the lower third of the nasal septum. The olfactory region is the seat and distribution of the olfactory nerve and corre-

sponds to the base of the nose, to the superior and middle turbinals and the upper two-thirds of the nasal septum.

Recent developments prove that this gland has a profound influence over the animal economy. It is believed by some that the *pituitary body* actually destroys certain substances which have a toxic influence on the nervous system; others believe that it secretes material media for the proper action of the trophic or nutritive apparatus; still others believe that it influences blood-pressure. It is known, however, from experimentation, that its removal in dogs, cats, mice and guinea pigs causes a fall of temperature, lassitude, muscular twitchings, dyspnœa or difficult breathing, and even speedy death. Hypertrophy of the gland is directly associated with certain diseases, such as *giantism* and *acromegaly*. The latter is a disease which causes a general enlargement of the bones of the head, feet and hands, usually occurring between the ages of twenty and forty years, and most frequently in females. The fact that these diseases are so closely associated with a hypertrophic condition of the pituitary gland has led to the conclusion that perhaps the giants or Cyclops of ancient times were cases of *giantism* or *acromegaly*. This view, while interesting from the standpoint of the functions of the *pituitary* gland, is not necessarily a correct one; for the age of giants, when men attained to a much larger stature than at present, can be accounted for on other grounds, namely; that the early mesozoic man, on account of his having to live among animals, trees and other vegetation of such huge size, had naturally to be fitted with a frame proportional to other animals in order

that he might successfully cope with his environing conditions. Nature thus wisely fitted him for the conditions which she had prepared for the scenes of his life.

The facts adduced in the foregoing description are purely empirical and may be verified by any who seek to establish their correctness or incorrectness. But we are about to introduce a species of testimony which while it may also be verified will not be found so easy of verification as the above-mentioned physiological facts, and not by the same means; yet they are nevertheless deserving of a place here. It is the liberal attitude that we must adopt towards all phenomena, excluding none that give promise of the widening and deepening of our knowledge and an explanation of much that has seemed heretofore unaccountable.

We have noted how subtle is the physical connection between these two bodies, the *pineal gland* and the *pituitary body*; we have seen how profound is the effect which the latter has been demonstrated, in a measure, to have over the entire bodily economy; but there is even other testimony to the effect that those gifted with the inner vision can observe the "pulsating aura" in each body, a movement which is not unlike the pulsations of the heart and which never ceases throughout life. In the development of clairvoyance it is known that this motion becomes intensified, the auric vibrations becoming stronger and more pronounced. The *pituitary body* is the *energizer* of the *pineal gland* and, as its pulsating arc rises more and more until it contacts the *pineal gland*, it awakens and arouses it into a renewed activity in much the same

manner as current electricity excites nervous tissue. When the *pineal gland* is thus aroused clairvoyant perception is said to become possible. These are facts which cannot be proved by the materialistic man of science nor can they be demonstrated to the layman who has to depend alone upon sense-deliveries for his knowledge. This is true for the reason that, in the first place, it is necessary that he shall either feel in his own mid-brain the energizing activity of these two organs and have his entire nerve-body shaken from crown to toe by the down rushing currents of that subtle energy with which the *pituitary body* floods it or be himself the perceiver of its activities. Nevertheless attention is here called to these phenomena and the conclusions drawn therefrom are offered as a means of denoting the probable line of investigations which will establish the directions which we should pursue and the source whence we shall find outcropping the new faculties and their organs of expression.

We confess to a knowledge of the fact that men of empirical science have long maintained a rather skeptical, if not contemptuous, attitude towards all these phenomena but it is also felt that there is far more of discredit in their attitude than of credit; for, in so doing, they have voluntarily adopted measures by means of which the knowledge that they so eagerly seek is shut out from their attainment. In vain, then, is appeal made to the intellect to remove the barriers which it unconsciously interposes between itself and the goal of its pursuit; in vain do we appeal to the materialist to give ear to testimony the data of which cannot be made amenable to his knife and scalpel neither to the microscope nor microphone; in

sheer vanity is he adjured to look *within*—into the interior of life, of mind and the things which he handles with his instruments—for the answers to his queries, for the path which leads into the wake of life and consciousness. Because his utter loyalty and devotion to the *modus vivendi* of the intellect will not permit this; but, after all, it is not wholly wise to allure him away unbetimes from his search after truth through superficialities nor to inveigle him into giving up his tenacious prosecution of the physically determinable. We would not have it so; for, perchance, he, too, one fine day, in the quiet of his laboratory shall come upon the data which may substantiate in his own mind the long settled conclusions of the occultist who, frequently and not without cause, grows impatient at the scientist's obstinate delay. These two workers, the empiricist and the occultist, must ultimately come together as collaborators—the one working upon the form, the vehicle, physical matter and the other seeking to understand the life, the interior forces which produce, the creative element. They cannot remain always aloof from one another; for they, too, are as men digging a tunnel from opposite ends. Finally, the partition will break and thus will dawn a new day for the knowledge of humanity and men will see the rationale, the truth and good sense of coöperation in this respect.

It can be said with confidence that whatever in the future may be learned as to the physiologic functions of the *pituitary body* and the *pineal gland*, it suffices to know that it is life which they express and that, too, in a far superior manner than any of the other sense organs. The *modus* of these two glands differs in a

very marked way from that of the organs of sight, hearing, taste, smell and feeling. For these latter are designed for contact with the external, objective world of sensations, their growth and evolution being dependent upon stimuli received from without while with the former the case is far different, in fact, just the opposite. The mode of life of the *pituitary body* and the *pineal gland*, instead of receiving sustenance and impetus from external stimuli, is rather dependent upon impacts received from the Thinker's own consciousness and made to impinge upon them by an exclusively interior process. Situated in the mid-brain, safely secluded from all external interference, they are naturally limited to stimuli which come from within, or it may be said, they are responsive to excitations that are more spiritual than those which come through the external sense-organs. If, as has been said they control the internal processes of metabolism (anabolism and katabolism), oxygenation, nutrition, and other important internal movements, none of which can be said to be under the control of the intellect, is it not, therefore, justly assumed that their response is directed towards stimuli which arise interiorly or upon a plane higher than the intellectual? It is a matter of scientific knowledge that those persons gifted with clairvoyance, and commonly known as "sensitives" are far more responsive to nervous excitation than those who are not so gifted. This would seem to imply that, on account of the superactivity of these two organs, the entire nerve-body has, in consequence, become more delicately and subtly organized. They seem to act as a switchboard for the regulation of the flow of the current of life through the body. Not

only do they come more nearly to an adequate expression of the physiologic function of life, but, as their energization means an enlargement of the scope of perception by giving the Thinker's active consciousness access to hitherto unapproachable realities and by penetrating the outer mask which life ensouls and also laying bare a domain of unlimited knowledge the manifestation of which is far more real than anything the senses can disclose, it is evident that they constitute, in their collaborative functions, a more highly adaptable medium for the expression of the Thinker's consciousness. And if so, for the kosmic consciousness which is the source of all forms of consciousness, they furnish a specializing and *adaptizing* agency.

Now, in all those cases of inspirations, revelations, telepathic communications, clairaudience, clairvoyance, dreams, visions, etc., wherein the Thinker is enabled to perceive facts and verities which are then presented to his consciousness in a manner clearly without the province of the common sense-organs, it must be apparent that these manifestations are apprehended by a perceptual mechanism which is entirely independent of external sense presentations but which is an interior and subtler form of psychic activity. Sounds which are heard by so-called "sensitives" and objects which are perceived by eyes that are keener than those organs said to have been evolved from the "medusa" cannot be heard by other persons nor perceived by them in any way. Thus it would seem that there are inner organs of perception which respond to these finer vibrations and which enable the person so gifted to apprehend them.

There are those who, presumably basing their

assertions upon actual observation and knowledge, unqualifiedly assert that in order "to gain contact with the inner worlds all that remains to be done is the awakening of the *pituitary body* and the *pineal gland*. When this is accomplished man will again possess the faculty of perception in the higher worlds, but on a grander scale than formerly (when humanity was in its infancy and exercised a lower form of psychic power only); because it will be in connection with the voluntary nervous system, and therefore, under the control of the will. Through this inner perceptive faculty all avenues of knowledge will be opened to him and he will have at his service a means of acquiring information compared with which all other methods of investigation are but child's play."³ It is the lack of this ability to see, with our physical eyes, as it were, by the "Roentgen rays," to penetrate the inwardness of things that has baffled and confounded men for so long a time and which has eventually led certain mathematicians and others to conjecture such strange, and in many cases, illogical possibilities for the denizens of four-space. This inability together with the desire to fathom the innermost complexities of solids and to handle, albeit with unholy hands, the supersensuous, the mysterious and the unapproachable identity of "things-in-themselves" have induced the more zealous among them to contrive some kind of hypothesis which would, at least, offer an explanation of these phenomena. It has driven them to wrestle with metaphysical possibilities in a vain endeavor to grasp that which, *ignis-fatuus* like, ever evades their slightest intellectual approach.

³ *Rosicrucian Cosmo-Conception*, p. 477, MAX HEINDEL.

But why this prolonged struggle, why this intellectual maneuvering and sophistry? "We can calculate, compute, excogitate," says PAUL CARUS,⁴ "and describe all the characteristics of four-dimensional space, so long as we remain in the realm of abstract thought and do not venture to make use of our motility and execute our plans in an actualized construction of motion; but as soon as we make an *a priori* construction of the scope of our motility, we find out the incompatibility of the whole scheme." Thus mathematicians are forced to relinquish all hopes of transforming the world of life into a sort of four-space dwelling place where everything is done according to the laws of mathematics. But whether they shall accept it or not there is a wider, truer and more rational view which recognizes all metageometrical investigations, as well as all kindred phenomena, as universal evidences indeed, as the very causes which, in the future humanity, will actually awaken and cause to be accelerated in their development these little inner sense-organs, the *pineal gland* and the *pituitary body*, whose perfect development promises to provide for the Thinker's consciousness an avenue of expression such as humanity has possessed never before. And too, it is not without full knowledge of the fact that it has been customary, among certain scientists or perhaps all of them, to regard these bodies, at least the *pineal gland*, as vestigial organs belonging to the past of human evolution, that we make these assertions. Yet, as man proceeds in the perfection of mechanical science, in the development of instruments of precision that aid his external senses,

⁴ *Foundations of Mathematics*, p. 90.

responds more and more to the subtle vibrations teeming everywhere in the atmosphere about him, and comes, in the course of time, naturally to possess a more sensitively keyed nervous mechanism, a finer body and higher spiritual aspirations, there will be a corresponding widening of his scope of vision and the attainment of larger powers of perception which must inevitably, in the very nature of things, tend towards a deeper and truer knowledge.

In view of the foregoing, it is believed that the general results of this pituitarial awakening which may be expected as humanity continues to evolve should be seen in the marked effects which will be wrought in the entire metabolistic area of the human body whereby a gradual intensification and sensitization of the whole neural mechanism will raise the peculiar efficiency of all the senses whether purely physiologic or psychic. For there are undoubtedly notes so delicate in their intensity that they transcend the grasp of the audital nerves; scents and fragrances so subtle in their excelling purity that it is beyond the powers of our present olfactorial contrivances to detect them; colors and other external stimuli so sublimely supersensuous that a nervous mechanism perhaps ten-fold more delicate and responsive than ours is required to apprehend them. All these, and more than at present is conceivable, will come, with the aid of pituitarial stimulation, within the purview of a more highly developed humanity of the future. And because mathematics have led a movement into the very camp of the intellectuals—logic-bound and tethered by the severest rigors of mathesis—whereby the intolerant intellect has been compelled, by rules

of its own making, to recognize the existence of the supersensuous, and by looking into the glaring light of the sun of the intuitable to gain strength of vision and boldness to press forward, a great and far-reaching service has been wrought for humanity. And in the tower of hyperspace mathematics have erected a monument to the intellect which, as long as the human race remains, will mark the great turning point in man's path to the highest life.

What if it were possible that the scientist, when he had carried instruments to their utmost precision and penetration, should suddenly, or otherwise, be endowed with a clear-perceptivity of sight, hearing and smell, so that he could with his own powers of vision, feeling and hearing take up the task where the microscope, the microphone and the micrometer left off and delve into depths far too unfathomable for his appliances, perceiving the innermost realities of things and processes? What if it were possible for him, with these added powers, to see and examine without the aid of the magnifying lens the electron, the atom and the molecule? What if the cell, the bacterium, and other invisible forms of life would then deliver up their secrets to his knowing mind? What if he could sense with his own inner vision, the ultra-violet and the infra-red rays; what indeed, if spirit itself, the innermost sheath of life, should be visible and palpable to him and he could note the internal processes, the action and movements of the infinitesimals of life? Think you not that such direct contact, such immediate and incontrovertible knowledge would be far superior to any advantage which his manufactured devices now bestow? It is even so.

Thus will react upon man's perceptive apparatus the flood of light which the awakened intuition will shed upon them and thus will man rise higher, driven on by the current of life with the mass of materiality, to a point of complete spiritualization and take additional steps in that direction which leads to Raja Yoga or the Royal Union with the divine life of the universe.

Before this step is taken, however, and before the passage from mechanics to biogenetics is made, as made it must be, man must win a complete mastery over matter. But this he will do; for more and more he is learning to put all those forms of labor which are so exacting as to leave him no time for the development of his higher powers into the hands of machinery. He will not be free until he has done this well-nigh completely. This is the task of the intellect and with it man must win his way to these higher faculties which are destined to succeed the intellect whereupon he will be ushered out of a life bound and restricted by mechanics to a life of unimaginable freedom, the *intuitive life*.

The outcome of these new faculties of perception and the development of the intuition will be the springing up of a new species of art that, turning away from appearances and sinking beneath or rising above, superficialities, will seek to portray in newly found colors, the plastic essence of things so that we shall have an art which pertains to the real, superseding that which pertains to the phenomenal. Language and the need of it will pass away; for man will have outgrown the use of signs and symbols in his communion with his fellows and will use the language of

the intuition—direct and instantaneous cognition. Philosophy will be regenerated, re-created. Speculation will give way to truth and there shall be but one philosophy and that shall be the *knowledge of the real*. Mathematics, the royal insignia of the intellectual life, because it can deal only with immobilities, with segments and parts and has no aptitude for the continuous flow, will yield its kingdom to a higher form of kinetics which will serve the intuitive faculty as mathematics now serve the intellect. Science will then be no longer empirical in its method; but a system of direct and incontrovertible truths. Religion will rise to meet these changes which will come in the path of human evolution; and faith will surrender its place to knowledge. Ethics, recast in a new mold, will deal with the new aspect of man's relation to his fellow-men. Man, for whose highest good these ultimate changes will come, will be a new creature, a higher and better man; and humanity shall evolve a new race. There shall, indeed, be "a new heaven and a new earth."

THE END.

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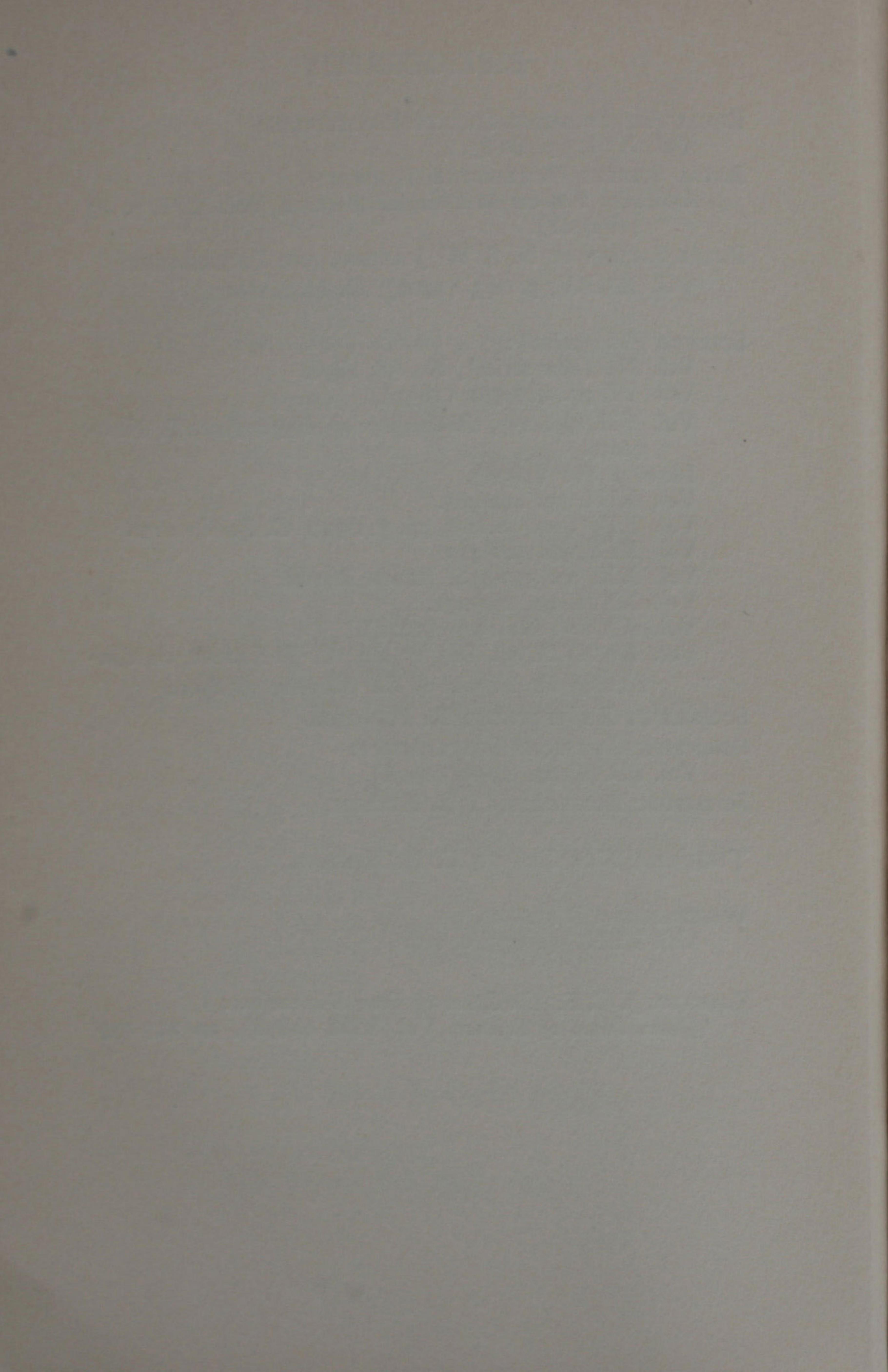
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INDEX

A

- Abeyance, higher faculties held in,
until lower are fully developed,
334
— intuition kept in, 338, *ff*
- Ability, to sense the inaudible and
the invisible, 342
- Absolute, no room for the, 101
- Abstract thought, invigorating
power of, 33, 40
- Abstractions, realizing, 144, 294
- Absurdity, analysis inevitably ends
in an, 319-20
- Acrobatics, mathetic, 146
- Acromegaly, 347
- Action, automatic, of the intellect,
253-4
— engendering, of life on the form,
330
- Activities, space, as physical and
chemical phenomena, 229-30
- Actualities of the physical world
pushed over into the concep-
tual, 119
- Actuality imperceptible to the in-
tellect, 126
- Adaptability of life, 330
— — mathematical laws, 37-39
- Adaptation, purpose of, 327-8
- Adaptations made by an organism,
162
- Additional freedom bestowed by
higher faculties, 334
- Affinity, zones of, 22, 124
- Agency, interpretative, intellect as
an, 166-7
- Agent, ego as an, of the Thinker,
243, *ff*
— engendering, life as an, 331
— of creation, life as an, 343
- Ahmes, an Egyptian priest, 44
- Alchemy of psychogenesis, 225
- Alcohols, eight different, from one
formula 155
- Algebraic quantities and space,
125-7
- Allowability of the rules of logic, 163
- Aloofness, the, of scientific dogma-
tism, 340
- Alphabet of space-genesis, 237
— the geometric, 193
- Amenability of mind to the laws of
evolution, 28-31
- Analogies, use of, to popularize the
four-space, 128-9
- Analogy, difference between two
processes illustrated by, 74
- Analysis incapable of dealing with
life, 319
— the manifold, the fiat of, 77
- Analyst and the manufacture of the
space-manifold, 77
— disregards the conformity of the
nature of things, 84
- Analytics and the mechanical origin
of the universe, 40-1
— perisophical nature of, 320, *ff*
— the four-space, a curiosity of, 40

Anchorage, fourth dimension denied, 265
 Angularity of consciousness, 120
 Answer of the senses to new needs, 332
 — the, of consciousness to realism, 197
 Anti-Euclidean geometry, 69
 Apotheosis of the definition, 78
 Apparatus, man's perceptive, 357
 Apparent vassalage of life, 329-30
 Appearance, dynamic, space as, 104-7
 Appetences, materialistic, of empiricists, 340
 Appulses of life against matter, 328
 Appurtenances of materiality, 331
A priori, 185, ff
 — — knowledge, 110-5
 Aprioriness, 112, 116
 Apriority, the principle of, 113, 223
 Arbitrariness of the common mensurative quantities, 41
 Archeological evidences, 332
 Archimedes, 70
 Aristotle, 322
 Arrangement of the contents of the kosmos, 317-8
 Art and the criterion of truth, 323
 — — — higher consciousness, 181
 — evidences of new faculties in the field of, 335
 Assemblage of mathetic contrivances, 335
 Assumptions, category of, 189
 — procedure based upon, disadvantages of, 163
 At-one-ment, 224, 252, 270
 — defined as the end of evolutionary activity, 1
 Attachment of the consciousness to the order of becoming, 305

Attainment, the difficulty of, by the intellectual method, 206
 — of space-consciousness, 225
 Attitude, the need of a more liberal, 340
 — towards things spatial, 306
 Audital nerves, notes that transcend the grasp of, 355
 Aura, pulsating, 348
 Automatism of the intellect, 253, ff; 338
 Avenues of knowledge opened to inner perceptive faculties, 353
 Awakening of the faculty of awareness in a new domain, 90
 — — — pituitary body and the pineal gland, 353
 — pituitarial, general results of, 355-8
 Awareness, a determinant of conception, 120
 — as a gauge of the existence of things, 161-202
 — degrees of, 165
 — hyperspace, a symbol of a more extensive, 180
 — progress in, 171
 — Thinker's sphere of, 274, 283

B

Baltzer, 66
 Barrier, the, to the Thinker's certitude, 186-8
 Barriers, freedom determined by absence of, 280
 Becoming, endless labyrinth of, 220
 — the kosmos, in a state of, 265
 — the order of, 305
 Becomings, infinity of, 234
 Becquerel rays, 336
 Being, identification of consciousness with, 205
 — kathekotic, 210

Being, the interiority of, 290
 — the numericity of, 309
 — the range of, coextensive with reality, 168
 Beings, discarnate, 154
 Beltrami, Eugenio, 1-2, 63-5, 66-7
 — — and the manifold, 317
 — — and the pseudosphere, 64-5
 Besiegement of matter by life, 329-30
 Bessel, on geometry as incomplete, 58
 Bewilderment, new realities cause, 169-70
 — of the mind, 182
 Biogenetics, passage from mechanics to, 357
 — turning to, from mechanics, 322
 Birth, as a fourth dimensional process, 159
 Blind men and the elephant, 257
 Bolyai, Janos, 2-3, 46, 60, 66, 83, 87
 Boundaries of a hypercube, 136-8
 Brain, the physics of, 292
 Brain-consciousness, 184, 186
 — standards of, 190
 Brotherhood, and the tendencies of the Thinker's consciousness, 301
 — the keynote of the intuition, 252
 Bulwarks, the formal, of geometry, 77-9

C

Carpet, the sensible world as a, 196
 Carus, Paul, on four-dimensional space, 254
 — — on metageometricians, 102
 — — on space, 110
 — — on the representation of the tesseract, 136-7
 Cayley, 3-4, 54-5, 66-7
 Cell-activity as a performance *a priori*, 114

Cell-colony, 250, 301
 Cell-consciousness as an aposteri-
 oristic phenomenon, 185
 Centers, pyknotic, 232
 Certainty, geometric, the basis of, 77-8
 — of mathetic conclusions, provi-
 sional, 37
 Chaogenic period of involution, 208, ff
 Chaogeny, 231, 233
 — the evolution of chaos into order, 4
 — the laboratory of, 193
 Chaomorphogeny, defined, 4, 231-2
 Chaos, as egg-plasm, 265
 — duration of, 268
 — movement of life in, 307
 — shores of, 307
 Chaos-geometricity, 307
 — -intellectuality, 307
 — -materiality, 307
 — -spatiality, 307
 — -Theos-Kosmos, 215, 233-4, 237
 — — — a triglyph symbolizing kath-
 ekos, 11-2
 Character of the universe, fixed by consciousness, 162
 Characteristics, changes in the, of reality, 169
 — fourth dimensional, of the ether, 157
 — minds of similar, fall into zones of affinity, 124
 — of non-Euclidean space, 72-3
 Chasm, kosmic, between the real and the ideal, 107
 Chemists, speculative, and the fourth dimension, 155
 Chrism, sacred, of creative men-
 tality, 91
 Circle, significance of process of squaring, 109

- Circle, the symbology of, 309
 Circuits, closed, our interests as, 167
 Clairaudience, 352
 Clairvoyance, 352
 Clairvoyant perception, 349
 Clause, enabling, of metageometry, 76-7
 Clavius, Christoph, 46, 52, 83
 Clifford, 66
 Code, psychic, for systematizing cognitions, 190-1
 Cognition, instantaneous, organ of, 258
 — intimacies of direct, 205
 — the method of, 186-8
 Cognitions, intuitive, 145, 192-3
 — psychic code for systematizing, 190-1
 Commensurable quality, dimension as, 140
 Communal consciousness, 270, *ff*
 Communalization and the intuition, 301
 Conarium, the, 345
 Conceivability and evolution of mind, 24
 — ultimate range of, 278
 Conceiving, power of, derived from sense-experience, 26
 Concept, as a shadow, 119
 — the hyperspace, gradual rise of, 27-8
 Conception and awareness, 120
 — every, based upon prior experience, 25
 — freedom, the, of the mind from, 28
 Conceptions, symbolic, dependence placed upon, 147
 Concepts, and the Thinker, 244
 — intuitograms as, 248
 — quality of, dependent upon sense-experience, 26
 Concepts, the perception of, 255
 Conceptual, related to the objective, 291
 — the, and mathematicians, 71
 Conceptualization, the act of, 4
 — the power of, dependent upon evolution of mind, 25
 Conclusions, mathetic, complex dependence of, 37
 Concrete hewn into shape by the intellect, 295
 Congruency, the, between intellect and the universe, 319, *ff*
 Congruity, the, between concepts and objects, 120
 Connection, the, traced out between reality and object, 126
 Co-originality of things, 303
 Consciousness and kosmos, graph representing, 271
 — — the character of the sensible world, 166
 — — — wake of life, 205
 — — time, 224
 — angularity of, 120
 — *a priori*, 185
 — a replica of, and judgments, 205
 — as a scale, 165
 — — barrier to ultimate knowledge, 207
 — — determinant of dimension, 145
 — — life, 295
 — — variable quantity, 171
 — attachment of, to the order of becoming, 305
 — dawn of, and dimension, 179
 — degrees of, 162
 — deprived of the validity of notions, 314
 — evolution of, 250
 — expansion of, 164, 272
 — extended, 89-90
 — focus of, 290

- Consciousness and the planes of the
 kosmos, 163
 — fragmentary view of, 260
 — freedom of, in the *genus homo*, 332
 — habitation of, 278
 — higher, and art, 181
 — — planes of, 178
 — history of, 298-9
 — identification of, with objects,
 189-90
 — intuitional, 255
 — keyed to the entire range of
 reality, 167-8
 — kinds of, 270, *ff*
 — kosmic, Elysian fields of, 235
 — of the primitive man, 253
 — organ of, 184, *ff*; 90
 — psychics of, 292
 — raised from the sensuous to the
 conceptual, 72
 — recipient of truths from dual
 sources, 26
 — sensible world as instrument of,
 199
 — triple presentation of notions of
 space to, 72
 — turned inward, 283
 — unification of the states of, 192
 — youthful, of mankind, 122
 Consequences, the science of, 85
 Considerations, mathematical, and
 reality, 128
 Consistency, kosmic, 174
 — self, of hyperspatial hypotheses,
 67
 — the criterion of geometry, 86
 — — inconsistency of, 173
 — — metageometrician curtailed by,
 85
 Construction, idealized, cannot be
 objectified, 144, 276
 — ideal, the meaning of, 4
 — mental, trafficking in, 154
 Consubstantiality of intellectuality
 and spatiality, 331, *ff*
 Continuity of the psychic plasm,
 260
 Contrivances, mathetic, the passing
 of, 241
 Convergence of parallel lines, 315
 Convolutions, duplex, 146
 Coördinates, as spatial determi-
 nants, 203
 — of hyperspace, 94, 97, 99, 115-6
 — systems of, 301, *ff*
 — three, 132, 232
 Copolarity of ideas and objects, 127
Corpora quadrigemina, 345
 Corpuscular orbits of particles, 152
 Cosmos, significance of, 4
 Creation, impregnated screen of, 232
 Creations, the, of the intellect, 173
 Criterion of geometry as consistency
 and convenience, 86
 — — truth, 323-4
 Crookes, 344
 Cube, as succession of planes, 148
 — generation of the, 144
 — illustrated, 133
 — the generating, 134
 Curiosities, analytic, energy spent
 in elaborating misappropri-
 ated, 39
 Current, electric, as component in
 the fourth dimension, 153
 Curvature of space, the doctrine of,
 formulated by Riemann, 5
 — — — valid element in the notion
 of, 305
 — the measure of, 61
 Curved space and metageometri-
 cians, 316
- D**
- D'Alembert, *note*, 51
 Dante, 181

- Darwin, 181
 Day, the Great Kosmic, 213
 De Tilly, 66
 Death, as fourth dimensional unity,
 159
 — of the intellect, 195
 Decrement of the diametrical ratio
 to the circumference of circle,
 312
 Deeps, fearful, of kosmic mind, 71,
 91
 Definition, apotheosis of, 77-8
 — as an arbitrary determination,
 100
 — the deification of, 37
 Degrees of realism, 164-5
 Deiform, basic idea of the, 5
 Demarkation (between reality and
 phantasy, the line of, 173
 Deposits of life, 173
 Descartes, 322
 Designs, cut out in materiality by
 life, 264
 Details, the power to dispose of in-
 numerable, 303
 Determinations, geometrical, the
 necessity of, inheres in logical
 deductions, 78
 — the factors of conscious, 162
 Determinative period of mental
 development, 31
 Development of the intuitive fac-
 ulty, future, 188
 Diacritics of life, 286
 Diameter, the ratio of, to the cir-
 cumference, 311-2
 Difference between concept and
 thing, 121-2
 — between mathematical and per-
 ceptual space, 120
 — between the ideal and the actual
 is dynamic, 108
 Differential, among minds, 124
 Difficulty of imagining the fourth
 dimension, 90
 — of propagating an intuition, 315
 Difficulties in the acquisition of real
 knowledge, 325
 — of hyperspace, the logical, 139-
 41
 Dilemma of metageometricians, 97-8
 Dimension, a distinct stage in psy-
 chogenesis, 27
 — — system of space measurement,
 5
 — and analysis, 163
 — — D'Alembert, *note*, 51
 — — the action of a tartrate in,
 156
 — as an arbitrary contrivance, 262
 — — — assemblage of elements, 93
 — — direction, 140
 — — extent, 98
 — — lying near the surface of things,
 159-60
 — — space, 96
 — current definitions of, 98-100
 — denied legitimate anchorage, 265
 — determined by consciousness, 145
 — does not explain spiritualism, 155
 — evolution of the fourth, 44
 — fourth, direction of, 134
 — — as "jack of all trades," 156
 — impossible to actualize, 124
 — key, to non-Euclidean geometry,
 90
 — movement of a plane into, 147-8
 — no motion of material masses into,
 125
 — not *a priori*, 116
 — proof of the existence of the
 fourth, 136
 Dimensionality, and the intellect,
 200
 — as dependent upon the will of the
 investigator, 95

Dimensionality, conception of,
 purely conventional, 92
 — logical difficulties which beset, 97
 — of perceptual space, 72
 — — space, the four, 142-3
 Dimensions, four, no basis in con-
 sciousness for, 172
 — piled upon one another, 300
 — vanity, the, of segmenting space
 into many, 299
 Direction as dimension, 99
 Disappointment with the sensible
 world, 120-1
 Discoveries, metageometrical, as
 excrescences of mental unfold-
 ment, 131
 — never the result of methodic re-
 flection, 29-30
 Disorder, the edict of, and space,
 230
 Disorderliness, the fringe of, 277
 Dispossession of the intellect by the
 intuition, 195
 Dissimilarities, besetment of, 291
 Distinctions, between conceptual
 and perceptual space, funda-
 mental, 73-5
 Diversity, a result of the fragmen-
 tative tendency of life, 6
 — as transfinite quantity, 42
 Divinity, prize of, won by the intel-
 lect, 43
 Duadic phase of evolution, 210-1
 Duodim, defined, 6; 128, 129, 134,
 177
 — consciousness, 163
 Duopyknon, 212, 213;
 — the meaning of, 6
 Duopyknosis, 208-10, 218
 — as a stage in the evolution of
 space, 6
 Duration and space, 224
 — eternal, 234

Dynamic appearance, space as, 104,
 107
 Dynamism, of the intellect, func-
 tional, 303
 Earth, the nebulous youth of, 335
 — a new, 358
 East effloresces as West, 306
 Ego, the, 270
 — and percepts, 244
 — as sovereign, 244
 — Thinker's dependence upon, 245
 — — treatment of, 246
 Egopsyche, 265
 — as an agency of self-conscious-
 ness, 258
 — defined, 7
 Egos, compared to choppy sea,
 256-7
 Egypt, birthplace of geometry, 44

E

Eisenlohr, 44
 Elaborative period of the non-
 Euclidean geometry, 66-70
 — — of mental development, 31-32
 Element of evolution, basal, 259
 Elements of the non-Euclidean
 geometry, 79-80
 Elephant and blind men, 257
 Ellis, Wilmot E., on ether as four-
 dimensional, 157-9
 Embrace of direct cognition, 205
 Engenderment of space, 260
 Ensoulment of the world-plasm, 329
 Entities, hyperspace, and the phe-
 nomenal world, 128-130
 Enumeration, reformation of the
 system of, 38
 Enveilment of consciousness, 273-4
 Environment, artificial and natural,
 162
 Epiphysis, the, 345

Equidistantial, described by hyper-spatial perpendicular, 80

Essence, elemental, as world-plasm, 329

Ether as possessing fourth dimensional characteristics, 157

Ethics recast in a new mold, 358

Euclid, 46, 70, 83, 263

— and the parallel-postulate, 45

— never-dying elements of, 53

Evidences, mathematical, exemplifies intellectual evolution, x

— the vanity of fragmentary, 204

Evolution, a continuous process, 327

— and the norms of reality, 175

— basal element of, 259

— commencement of, 232-3

— intellectual, forward movement of, 184

— kosmic, vicissitudes of, 215

— laws of, govern mind, 28

— mental, results of, 122

— of faculties, synchronous with evolution of matter, 332

— — material characteristics of the earth, 335

— — organs, time required for, 188

— preparation of the field of, 218

Exaltation of matter into spirit, 329

Examples of new perceptive evidences, 341-3

Existence on a higher plane, states of, 162

Experience, corroborative testimony of, denied hyperspace, 263

— prior, and conception, 25

Experiences, spatial, systematization of, 78

Extension, space as an unbounded, 61

Extra-spatiality, degraded into spatiality, 261

Extravaganza, mathematical, and the fourth dimension, 156

Eyes, as Roentgen rays, 353

F

Fact-mass, 289

Factors of conscious determinations, 162

— four, of the criterion of truth, 324-5

Facts as facets of truth, 284

— attempts to reform, 304

— logic as symbolism of, 287

— — the modeler of, 288

Faculties, dual derivation of, 162

— evolution of, synchronous with evolution of material qualities, 332, *ff*

— extended, 239

— foreshadowed by the hyperdimensional, 131

— higher, man must win his way to, 357

— new faculties evidenced by four-space, 24-29

— rudimentary nature of, 341, *ff*

— the source of, 349

Faculty and the intellect, 247, *ff*

— as transmissible character, 251

— determined by function, 336

— greatly extended, 117

— higher than the intellect, 126

— I-making, self-consciousness as, 243

— intuitive, 185

— of perception in higher worlds, 353

— — awareness, the awakening of, 89-91

— overshadowed by the intellect, 188

— of perception in higher worlds, 353

— rudimentary condition of, 192, *ff*

- Faculty, outcropping of, 249-51
- Failure of efforts to justify the objective existence of four-space, 125-6
- Failures at solving the parallel-postulate, outcome of, 48, 83
- Faith, dispossessed by knowledge, 358
- Fay, mathetic, 160
- Fechner, 39
- Finity and unboundedness of space, 76
- Flammarion, Camille, 341-2, 344
- Flexity, as property of hyperspace, 63
- Flexure, space as a, 305
- Fluxional, between sense objects and ideal representations, 122-3
- Fluxion, psychic, as difference between memory image and object, 7-8; 122
- Focus of consciousness, 163, 290
- — the intellect, 310
- Fohat, and the creation of morphons, 219
- as creative energy, 213
- Creator, 8
- Fohatic energy, 226
- Form, as vehicle of life, 330
- definition of, 8
- driven back over the path of its genesis, 327
- pure, cannot exist in nature, 294
- the ideality of, 110
- the universe not a pure, 108
- Formative period of mental development, 31
- — of non-Euclidean geometry, 55
- Formula, eight different alcohols from one, 155
- Four-dimensionality, justification of, 176
- Four-space, a curiosity of analytics, 40
- and Riemann, 27
- as a divertisement, 175
- consciousness does not act in the, 172
- existence of, denied, 171-2
- movement of matter in, 157
- reality of, glibly proclaimed, 154
- the, 8, 240
- — denizen^c of, 353
- — domain of, 154
- — study of, 124
- use of analogies to popularize, 128
- Fourth dimension, analogical reasoning of, 177-9
- as a transcendental problem, 140
- — an attitude of the intellect, 200
- electric current as a component in, 153
- imaginability of, 106-7
- Simon Newcomb on, 125
- Fragmentariness of the intellectual method, 164
- Fragmentary view of the universe, 260
- Fragmentation, tendency to, 296
- harks back to cell-division, 301
- Freedom, a new, 338
- determined by absence of bonds, 280
- mathematical, 60
- mental, 66-7
- now dawning for the mind, 32
- of consciousness in *genus homo*, 332
- regal freedom of the mind, 118
- three degrees of, 125
- unrealizable, for the Thinker, 255
- Fringe, chaogenetic, 308, 309
- of disorderliness, 257
- — kathekosity, 229

- Frischauf, 66
 Full, the universe as a, 310
 Function determines faculty, 336
 Functions back of latent faculties,
 indefinite, 343
 — cellular and histologic, 253
 Functioning, instinctive, of the in-
 tellect, 289
 Fundamentals, totality of, kosmic,
 265
- G**
- Gamut of realism, 169
 Gauge, awareness as a, 161-202
 Gauss, Charles Frederick, 8-9, 56-8,
 59, 174
 — — — as formulator of the non-
 Euclidean geometry, 57
 Geminus of Rhodes, 45, 52
 Generability, as property of space, 62
 — of hyperspace, Keyser on, 144
 — — space by lines, 143
 Generation, the, of the hypercube,
 134
 — of the hypertetrahedron, 135-6
 Genesis, of space, 211, 227, ff
 — — the earth, its nebulous youth,
 335
 — — — form, 327
 — — — sensible world, 167
Genus homo, freedom of conscious-
 ness in, 332
 Geometricity, 266
 Geometries, non-Euclidean, based
 upon a negation of the latent
 geometrism, 262-3
 — three possible, 54
 Geometrism, engenderment of, 262
 — established by life, 264
 — kosmic geometrism, establish-
 ment of, 231
 — latent, 257
 — native geometrism of space, 262
 — rediscovered by the intellect, 9-10
 Geometrism, the basis of, 237, 261
 Geometry, anti-Euclidean, 69
 — and the study of magnitudes in
 space, 203
 — artificial, 262-4
 — a two-fold, 59
 — breakdown of, 266
 — determinative period of the non-
 Euclidean, 61-4
 — diverse systems of, 323
 — Euclid's *Elements* of, 53-4
 — formal bulwarks of, 77-9
 — *Imaginary Geometry, The*, 60
 — natural geometry, 261
 — Plato and the divine geometry,
 193
 — possible systems of, 174
 — radical essence of pure, 85
 Geometry, non-Euclidean, at vari-
 ance with the parallel-postu-
 late, 83-5
 — — based upon a misconception,
 91
 — — determined by qualitative dif-
 ferences, 140
 — — elaborative period of, 66-70
 — — first published treatise on, 60
 — — formative period of, 55
 — — the final issue of, 88-9
 — — growth and development of, 92
 — — invalidation of, 174
 — — key to, 90
 — — Lambert's Non-Euclidean ge-
 ometry, *note*, 51
 — — popularization of, 66-7
 — — Schweikart's treatise on, 59
 — — self-consistence of, 57
 — — some elements of, 79-80
 — — superperceptual knowledge of,
 72
 Geometry, non-Legendrean, 70
 — symbolic, and commensurable
 quality, 145

Gerling, as correspondent of Gauss, 58
 Germ-plasm, continuity of, 260
 Giantism, 347
 Glimpse, a, of the reality of space, 314
 Glorification of the flesh, 227
 Groups, transformation, discovery of, 30
 Guide-posts to a new domain, 273, 277
 Gulf, interposed between manifestation and non-manifestation, 206

H

Halley, memoir of, mastered by La Grange, 50
 Halstead, G. B., *note*, 49, 66; *note*, 79
 Heindel, Max, *note*, 353
 Helmholtz, 39, 66
 Hewer, the, of the concrete, the intellect as, 295
 Hinton, C. H., 154
 — on the fourth dimension, 153
 History, the, of mind, three great epochs of, 31-32
 Homogeneity, the, of realism, 165
 Hoüel, J., 60, 66
 Hudson, 344
 Humanity and the exalting power of life, 331, *ff*
 Hypercube, boundaries of, and mirrors, 136-9
 — the generation of, 134, 145
 Hyperdimensional, as a prophecy of new faculties, 131
 Hyperspace, 175
 — a monument to the intellect, 356
 — and the involved procedure of arriving at a recognition of its relations, 73
 — and the passage thither, 293, *ff*

Hyperspace as a figurative mountain-peak, 200
 — — — movement, 44-68
 — — — an all-powerful something, 160
 — — — idealized construction, 10
 — — — evidence of new faculties, 24
 — — *ignes fatui*, 154
 — — illusion, 202
 — a symbol of higher consciousness, 180-4
 — concept of, as an evolutionary quantity, 44-5
 — confounded with real space, 91
 — creation of, 335
 — denied the corroborative testimony of experience, 263
 — direction of, baffling to mathematicians, 146
 — discovery of, a sign of mental evolution, 180
 — domain of, a fairyland, 239
 — magnitudes of, the non-sensuous, 72
 — mysterious hiding place in, 129
 — the logical difficulties of, 139-141
 — the six pillars of, 62-3
 Hyperspatiality as the toys of childhood, 241
 Hypertetrahedron, the, 135
 Hypertrophy of the pituitary body, 347
 Hypervolume, the, 134
 Hypothesis, a superfoetated, 141
 — four-space, utility of, 129; 154
 Hypotheses, admissibility of, 118
 — incompatibility of the non-Euclidean, 67; 71
 — Riemannian, 80
 — solution of, Bolyai, 31
 Hyslop, James H., on the logical difficulties of hyperspace, 139-141

I

- Icosahedron, examination of the, 285
- Ideal, and the real, kosmic chasm between, 107
- perceptual value of, 275, *ff*
- Ideas and words as symbols, 126-7
- Malebranche on, 222
- realism of, 24-35
- the symbolism of, 205
- Identification of consciousness with being, 205-6
- with the objects of study, 189-90
- Identity of things-in-themselves, 353
- Ignes fatui* and hyperspaces, 154
- Illustration of plane-rotation, 148-150
- — the tesseract, 133
- Images, totality of, recoils upon us, 167
- Imaginability of the fourth dimension, 90, 106-7
- Imagination, premises of, the mathematical, 146
- Impossibility of plane-rotation, the structural, 151-3
- Impressions, the symbolism of, neurographic, 186
- Impulse, the satisfaction of the original creative, 310-1
- Incomprehensibility of reality to the intellect, 126
- Incongruity, life estranged by a radical, 325
- Individual as space, 223
- Ineptitude of intellectual determinations for vitality, 314
- Infinite, interpreted in the terms of the finite, 82
- Infinitesimals of unity, numbers as, 41
- Infinity as a process, 109
- of becomings, 234
- Infinity of parallels through a given point, 70
- — space, a capital illusion, 195
- the concept of, 277
- — innate dread of, 103
- — relativity of, 194
- Influence of abstract thought, 33
- — Kant on the non-Euclidean geometry, 49-50
- — La Grange, 51-2
- — the intellect, 315
- Infundibulum, the, 345
- Inner organs of perception, 352
- Innermost, the, realities of things, 356
- Insouciance* of the geometer, 96, 294
- Instant-exposure and intellect, 311
- Instrument, intellect likened to a color-bearing, 313
- for the measurement of the passage of space, 297
- of consciousness, the sensible world as, 199
- — life, form as an, 328
- Integers, as fractional parts of unity, 41
- Intellect and its domination of the intuition, 333
- — — final union with the space-mind, 194
- — — topography, 312
- — spatiality, 263
- — the deposits of life, 173
- — — designs cut by life in materiality, 264
- — — dictum of Sensationalists, 26
- — — instant-exposure, 311
- — — intuitive faculty, 247, *ff*
- — — prize of divinity, 43
- as a color-bearing instrument, 313-4
- — — searchlight, 168

- Intellect as a fashioner of phenomena, 199, *ff*
- — hewer of the concrete, 295
 - — sole interpretative agency, 166-7
 - automatism of, 253, 338
 - cannot seize life, 282
 - crowned by a diadem of gold, 338
 - dominated by the intuition, 250
 - fashioned for matter only, 231
 - follows in the grooves of logic, 294
 - hyperspace as a monument to, 356
 - in the field of vitality, ix
 - its aptitude for starts and stops, 292, 302
 - — instinctive tendency to fragmentate, 296
 - quality, determined by mathematics, 337
 - makes for individuality, 252
 - misses the ceaselessness of life, 201
 - *modus vivendi* of, its influence upon knowledge, 184
 - the constitution of, 291
 - — cut and mode of, 167
 - — focus of, 310
 - — illusion of, 246
 - — illusionary character of, 323
 - — incomprehensibility of reality to, 126
 - — instinctive functioning of, 289
 - — judgments of, 302
 - — moods of, 202
 - — predominating tendency in, 320-1
 - — scientific tendency of, 165-6
 - — struggle of, against dispossession, 195
 - unsuited to deal with reality, 322, *ff*
- Intellectuality and reality, 304
- — spatiality, consubstantial, 331
- Intellectuality as coextensive with spatiality and materiality, 236
- the source of, 260
 - — Thinker makes his own, 242
- Intelligence and automatism, 253, *ff*
- the Thinker as a pure, 243
 - transfinite intelligence and the degrees of realism, 164
- Intent, the kosmic, of the intellect, 326
- Interests, the sphere of our, as closed circuits, 167
- Interior, the great, 290
- Interiority of being, 290
- Interpretation, the standards of, vary as consciousness varies, 171
- Interstices of materiality, 264
- Intuition and brotherhood, 252
- — communalization, 301
 - — the riddle of spatiality, 325
 - as dispossession of the intellect, 195
 - cannot be served by mathematics, 337
 - dominated by the intellect, 333
 - held in abeyance, 338, *ff*
 - its domination of the intellect, 250
 - the development of a spatial, not absurd, 145
 - — need of a sympathetic attitude towards, 249
 - — results of the development of, 357
- Intuitional consciousness, 255
- the superiority of, over the rational, 187
- Intuitions and the lead of life, 191
- — — Thinker, 27
 - free, mobile and formless, 166
 - the conceptualization of, 248
 - — humility of, 165
 - — nature of, 185

- Intuitograms, as concepts, 248
 Intuitograph as means of contacting
 the egopsychic consciousness
 by the Thinker, 10
 — as superconcepts, 255
 — the difficulty of transmitting,
 315
 Invariability, the vaunted, of the
 laws of mathesis, 37
 Invariants, psychological, 24
 Investigations, metageometrical, and
 the new sense-organs, 354
 Involution, as antithesis of evolu-
 tion, 10-11
 — kosmic involution, 226
 — of matter, 328
 — the movement of, 219
 — — seven stages of, 208-12
 Ions, creation of, 219;
 — magnitude of a hydrogen ion, 225

J

- Judgments *a priori*, Kant on, 85-6
 — and the faculty *a priori*, 190-1
 — — zones of affinity, 124
 — based upon a replica of conscious-
 ness, 205
 — no trustworthy, can be predicated
 upon fragmentary knowledge,
 282
 — of the intellect, 302
 — the lessening of error in, 256
 — — more complex the more at
 variance with the nature of
 things, 75
 — — synthesis of, 257-8
 — valid judgments long delayed,
 170-1
 Judicative power of mathematics,
 180
 Justification for a multi-dimensional
 quality in space, 262
 — of four-dimensionality, 176

- Justification of sense-deliveries by
 one another, 76
 — — the existence of the fourth di-
 mension, 125

K

- Kant, 85, 181, 182, 322
 — and the faculty of thinking, 261
 — — — idea of space, 322-3
 — influence of, on the hyperspace
 movement, 49-50
 — on the nature of things, 119
 — — space as an intuition, 115
 Kathekos, 233-4
 — as chaos, 266
 — — symbol of Chaos-Theos-Kos-
 mos, 11-12
 — symbology of, 234
 Kathekosis, *note*, 227
 Kathekosity, fringe of, 229
 — rock-bound coast of, 267
 — significance of, 12
 Kathekotic consciousness, 272
 — period, 209
 Key to the mysteries of nature, the
 fourth dimension as, 131
 Keyser, Cassius Jackson, and free-
 dom of the mind, 33
 — — — on attitude of metageo-
 metricians, 71
 — — — — dimensionality, 94-5
 — — — — four-dimensionality of
 space, 142-3
 — — — — generability of hyper-
 space, 144
 Klein, Felix, 12, 54-5, 66-7
 Knowledge, all, relative, 101
 — barrier to the certitude of the
 Thinker's, 186-7
 — fabric of, 196
 — hypothetical nature of, 189, *ff*
 — immeasurable realm of, laid bare
 by the telescope, 298

- Knowledge, mathematical, apriority
 of, questioned, 37
 — nature of the non-Euclidean,
 superperceptual, 72
 — real, difficulties of acquiring, 325
 — related to the stream of life and
 to the shore of materiality,
 323
 — relative, degrees exist for, 164
 — sphere of, 184
 — systematization of, 126
 — ultimate, consciousness as a bar-
 rier to, 207
 — unification of, 256
 Kosmogogenesis, the latent geome-
 trism of, 264
 — — scope of, 237
 Kosmometer, the, 297
 Kosmos, and consciousness, graph
 representing, 271
 — arrangements of the contents of,
 317-8
 — in a state of becoming, 265
 — magnitude of, 308
 — moods of, 311
 — space as the consistence of, 239
 — *see* Cosmos, 12

L

- Labor, division of, between the tui-
 tional and the intuitional
 faculties, 193-4
 — mathematical labors, significance
 of, 176
 La Grange, Joseph Louis, 12, 39, 50-
 3, 321, 322
 — — — — and the parallel-postu-
 late, 51-2
 Lambert, John, 58
 — — and the theory of parallels,
 48-9
 Language, the passing of, 357
 Legendre, 70
 Leibnitz' dictum, 26
 Leonard rays, 336
 License, mathematic, permissibility
 of, 38
 Lie, Sophus, 12, 67
 — — and transformation groups, 30
 Life, analysis incapable of dealing
 with, 319
 — and consciousness as one, 224
 — — form rooted in pyknosis, 214,
 328
 — — the fourth dimension, 172
 — — — inaptitude of mathemat-
 ics for, 179
 — — — power to create, 297
 — as agent of creation, 343
 — — creative agent, 264
 — — expression, 303
 — — vassal of materiality, 329-30
 — causative agencies in prolonging,
 123
 — current of, as engendering ele-
 ment, 331
 — deposits of, and the intellect, 173
 — estranged by a radical incongru-
 ity, 325
 — exalting power of, and humanity,
 331, *ff*; 342
 — exhibition of its remains, 282
 — flow of, 265, 297
 — form as an instrument of, 328
 — indescribable signs of, 219
 — infinitive action of, 327
 — intellect has no aptitude for, 231
 — intuitive, values of, x
 — larger life of the Thinker, 196
 — lead of, followed by intuition, 191
 — limits of, fixed by consciousness,
 198, *ff*
 — most solid facts of, as shadows,
 195
 — motility of, admits of endless
 variations, 35

- Life, movement of chaos in, 307
 — passage of, 201
 — passage through spatiality, 288
 — power to manipulate, 303
 — recurrent movement of, 307
 — totality of egoic, 243
 — undulations in the current of, 329
 — uniqueness of, 41
 — wake of, and consciousness, 205, 288
 Life-cycle, evolutionary results of the, 259
 Life-stream, the, 278
 Light, polarized, and the fourth dimension, 156
 — consciousness as a spreading, 168
 Light-years and space, 278
 Limits, the sphere of, consciousness as, 163
 Line, as generating element, 144
 — the straight, a curved, 76
 Lineage of every principle runs back to monopyknosis, 213
 Lines, perpendicularity of, in four space, 130
 Lobachevski, 55, 60, 66, 87
 Lodge, Sir Oliver, 340-1; 344
 Logic as architect, 118
 — conventional forms of, 262
 — data of, 286
 — intellect follows in the grooves laid out by, 294
 — miracle power of, over facts, 288-9
 — rules of, allowability under, 163
 — — — the game of, 164
 — as symbolism of facts, 287
 Logos and the limits of space, 193
 — being of, 218
 — body of being of, 214
 — consciousness of, 204
 — creative, 12, 213
 — the, 216-7
 Lorenz, 83
 Luther, Martin, 181
- M**
- Magnitudes, geometry, a study of, 203
 — non-sensuous, of hyperspace, 72
 Makrokosmic consciousness, 270
 Malebranche, N., 222; see *note*
 Manifestation and non-manifestation, 206
 Manifold, finite, though unbounded, 70
 — manufactured by the analyst, 77
 — the, 61-2, 172
 Manifoldness, analytical manifoldnesses, as mental excitants, 89-90
 — as a conventional construction, 262
 — — an intuition, 318
 — of space, as a near-truth, 317
 Manning, 82, 157
 — and maneuvers in the fourth dimension, 152
 Manvantara, 213, 228-9, 232
 — as evolution and involution combined, 13
 Mask, logic as a, 288-9
 Mass-termini, of lines, 236
 Mastery of life over matter, 330
 — of the sensible world, 196-7
 Materiality as a deposit of life, 295
 — — consubstantial with spatiality, 331, *ff*
 — becoming spatialized, 261
 — characteristics of, 260
 — engendered by kosmic mind, 261
 — engenderment of, 294
 — interpenetrative with spirituality, 236
 — interstices of, 264
 — neglect of, 320

Materiality, shore of, 323
 — transmuted into spirituality, 328
 Mathematicians and the definition,
 37
 — — — limitations of consciousness,
 178
 — — — phenomenal world, 118-9
 — as prophets, 336
 — respected by humanity, 337
 — the gods of mathesis, 84
 Mathematics, a determinant of the
 quality of the intellect, vii
 — and the criterion of truth, 323
 — — — kosmic intent of the intel-
 lect, 326
 — as symbology, 184
 — Euclidean, 140
 — fails when it encounters life, 337
 — its inaptitude for life, 179
 — — kingdom yielded to kinetics,
 358
 — possesses no judicative power over
 life, 180
 — the orthodoxy of, 34
 Mathesis, and conceptional space,
 203
 — conduct of the intellect in the
 field of, vii
 — definition of, 13
 — domain of, as origin of fourth
 dimension, 130
 — gods of, 84
 — marvelous domain of, 118
 — realm of, not submissive to laws
 of sensible space, 34
 — things of, as emblems of kosmic
 forces, 239
 — world of, 67, 127
 Matter and mind, syncretization of,
 299
 — appulses of life against, 328
 — as a deposit of life, 330
 — honeycombs of, 339

Matter metamorphosed by life,
 328
 — mind as wedded to, 249
 — movement of, in four-space, 157
 — qualities of, and faculties, 332
 — seven planes of, 212
 — spiritualization of, as end of evo-
 lution, 327
 — totality of, acted upon by totality
 of life, 328
 — unity of, with space, 260
 — universum of, 261
 Matutinal ceremonials of creation,
 221
 Measurability, as property of space,
 62-3
 Measurement of hyperspaces, the
 science of, 73
 Measurements, space determined by
 the number of, 61
 — systems of space, 91
 Measurer of space, *n*-dimensionality
 as a, 296-7
Mecanique Analytique, 50-1, 321
 Mechanics of matter, the passage
 from, to the dynamics of life,
 326
 — to biogenetics, the passage from
 357
 — the turning from, to biogenetics,
 322, ff
 Mechanism, the doctrine of, due to
 analytics, 40
 Memories, stored in the omnipsyche,
 258
 Men as gods, 289
 Mental evolution, determinative
 period of, 31
 — — elaborative period of, 31-32
 — — formative period of, 31
 Mentality, inner mysteries of crea-
 tive, 91
 — infantile out-feelings of the, 336

- Mentality, the principle of, 210, *ff*
 Mentalities, the adaptation of phenomena to, 184
 Mentograph, the, 121
 — the basis of intellectual consciousness, 13
 Mesozoic man and his environments, 347-8
 Metageometrical investigations and the new sense-organs, 354
 Metageometricians and hyperspace, 238
 — — proof of rotation about a plane, 149-151
 — — the curved space, 316
 — — — fourth dimension, 145
 — — — key to the mysteries of nature, 131
 — baffled by the direction of hyperspace, 146
 — dilemma of, 97-8
 — eschew sense-data, 73-4
 — Keyser on the attitude of, 71
 — perceptual obliquity of, 102
 — — seed thought of, 182
 — turned to idealized constructions, 263
 Metageometry, as a stepping stone, 238
 — defined, 13
 — Riemann, the father of, 63
 — the fabric of, 66
 Metamorphosis of matter by life, 328
 — of the monopolyknon, 214
 Metamorphotic stage of space-genesis, 228
 Metaphysician, the preserves of, usurped by mathematicians, 141
 Meta-self as medium of kosmic consciousness, 13, 217
 Methods of the ego, 344
 Methods, scientific, and the ample explication of phenomena, 154
 Mikrokosmic consciousness, 270
 Mind, amenability of, to the evolutionary movement, 28-32
 — and freedom from conception, 28
 — — — problems of physical existence, 32
 — — the new freedom, 33
 — as vehicle of life, 285-6
 — — wedded to matter, 249
 — coevalism of, and space, 240
 — consubstantial with space, 239-40
 — divine, of the kosmos, 176
 — evolution of, and conceivability, 24
 — of the duodim, 128
 — powers of, not attained simultaneously, 334
 — profound influence of hyperspace on the, 91
 — space as progenitor of, 224
 — three great epochs of the history of, 30-31
 — tuitional, the limitations of, 192-3
 — the unity of, with space, 224
 Mind-principle, the quintopyknon as the basis of, 221, *ff*
 Mirrors, three, and the hypercube, 136-8
 Mobility, life as, 264
 Molecule, the four-dimensional, Newcomb on, 159
 Monadic phase of evolution, 210-1
 Moneron and man, the gulf between, 28
 Monopyknon, the, 213, 216
 Monopyknosis, defined, 17; 208-10, 218
 Monstrosities, mathetic, 202
 Moods of the kosmos, 311
 Morphogeny, 13, 233-4
 Morphons, the creation of, 219

Motility, the scope of, 131
 Movement, forward, in knowledge, 336
 — hyperspace as an evolutionary, 44-68
 — — influence of Kant on, 49-50
 — of life in chaos, 307
 Multi-dimensional quality of space, justification for, 262
 Multiplication of hypotheses, 118
 Mutuality, intuition as promoter of, 301, *ff*
 Mysteries, inner, of creative mentality, 91
 — kosmic, low-lying plains of, 239
 — of life and mind, 326
 — — the sciences and the four-space operator, 131
 Mystery, kosmic, the revelation of, foreshadowed in manifold, 77
 — of reaction, 167-8
 — — space decreases as copes of consciousness increases, 273, *ff*

N

n-Coördinates, 203
n-Dimensionality, as a phase of geometry, 300
 — — property of intellectuality, 269
 — — quality of conceptual space, 14
 — irreconcilable with perceptual space, 156
 — no justification for, 235
 — not surprising that the intellect fell upon, 296, *ff*
 — predicates concerning, 158
n-Space, imperceptibility of, 94
 Nasir-Eddin, 46, 53
 Natural symbols, ideas as, 126
 Nature, representative, of things, 119
 — the vacuum-stillness of, 339

Naught to unity, consciousness registers from, 165
 Near-truth, 300, *ff*
 — as variation from criterion of truth, 324
 — based upon partial knowledge, 14
 — space-curvature as a, 306
 — space-manifold as a, 318
 Nebulosity, 267
 Necessity, as a bulwark of geometry, 77-8
 Nerve-body, the, 349
 Neurogram, 14
 Neurograph, the Thinker's scrutiny of, 190
 Neurographical communications, 244
 Newcomb, Simon, 14-5; 66
 — — and the four-dimensional molecule, 159
 — — on the fourth dimension, 125
 Non-Euclidean and the meaning of dimension, 97
 — — things as they actually are, 71
 — dilemma of, 86
 — meaning of the term, 69
 — results obtained by, 88
 Non-manifestation, as antithesis of manifestation, 106
 — and manifestation, 206
 Non-methodic advancement of human consciousness, 299
 Non-spatiality, cut off from spatiality, 266
 Norm, as a value assigned by the intellect, 167
 — consciousness as a, 15; 161-202
 — of life, found by synthesis, 300
 — — the natural geometry, 263
 Note, the dominant, of communality, 301
 Notions of space, triple presentations to the consciousness, 72

Number, as a phase of kosmog-
 esis, 309
 — numbers as infinitesimals of unity,
 41
 Numericity of being, 309

O

Objects and ideas, 126-7
 — passage of, into the fourth di-
 mension, 130
 — of study, identification of con-
 sciousness with, 189
 Obliquity, perceptual, of metageo-
 metricians, 102
 Obscurantism, mathetic, 154
 Occultist and the scientist, 350
 Omnipsyche, 265
 — as agency of kosmic conscious-
 ness, 258
 — — neglected factor of evolution,
 259
 — defined, 15
 One-space represented by a line, 134
 Ontogeny recapitulates phylogeny,
 27, 334
 Order, kosmic, the difference be-
 tween, and hyperspace, 143
 — mathematical, discovered by the
 intellect, 261
 — the fiat of, 208
 — the totality of, 265
 Orderliness, 266
 Organ, determined by function to be
 performed, 336
 Organs broken up by life into special
 parts, 343
 — the evolution of, 188
 Orthodoxy of mathematics, 34
 Outcome of new adjustments, 256
 Out-feelings of the Thinker, infan-
 tile, 336
 Outlook, the spiritualization of our
 mental, 40

P

Papyrus, a hieratic, 44
 Parallel-postulate and the surface of
 a sphere, 70
 — as basis of non-Euclidean geom-
 etry, 54
 — — stated by Euclid, 55
 — — — Lobachevski, 55
 — — — Manning, 82
 — failures to demonstrate, 48, 82-3
 — in the Elements of Euclid, 16
 — Saccheri's proof of, 47
 Parallels, convergence of, 80
 — infinity of, through a given point,
 70
 — meet at infinity, 88
 — theory of, 47-9
 Passage from mechanics to bio-
 genetics, 357
 — from mechanics to dynamics, 326
 — from three-space to four-space,
 292-3
 — of mathetic contrivances, 241
 — of space, 16, 297
 Pathway of life, sinuosities in, 330
 Patterns of the intellect, ready-made,
 166
 Pentagrammaton of space, 237
 Perceptibility in the Thinker, the
 faculty of, 188
 Perception, domain of, and the sen-
 sible world, 19
 — inner organs of, 352
 — replaced by conception, 255
 Percepts, and the ego, 244
 Period, chaomorphogenic, 208, ff
 — determinative, 61-5
 — kathekotic, 210
 Perisophical nature of analytics,
 320, ff
 Perisophism, a, 300
 Permissibility of mathetic license,
 unlimited, 38

- Perpendicularity, 132, 177
 - of lines in the four-space, 130
- Phantasy and reality, line of demarkation between, 173
 - the world of, 146
- Phantom-ideal, the, 277
- Phase of the world age, evolutionary, 209
- Phenomena, efforts to explain, on the basis of the fourth dimension, 129
 - fashioned by the intellect, 199
 - fragmentary interpretation of, 302
 - mind's method of apprehending, 186
 - physical phenomena amply explained by scientific methods, 154
- Phenomenal, the inverse of realism, 278
- Philosophy and the criterion of truth, 323-4
 - regeneration of, 358
 - systems of, and zones of affinity, 124
- Phosphorescence, dim, added to the unilluminated pool of sense-consciousness by the intuition, 26
- Phylogeny and ontogeny, 334
 - represented in ontogeny, 27
- Physical as embodiment of all possibilities, 227
 - phenomena as space-activities, 229
- Physicality, the principle of, 210, *ff*
- Physics of the brain, 292
- Pi* proportion, significance of, 311-2
- Pickering on space-curvature, 279
- Pineal gland, energized by the pituitary body, 348-9
 - — the, 344, *ff*
 - — not a vestigial organ, 354
- Pituitarial awakening, general results of, 355-8
- Pituitary body and the Thinker, 351
 - — as an organ, 344-352
 - — C. De M. Sajous on, 345
 - — hypertrophy of, 347
 - — location of, 246
 - — the, 344, *ff*
- Plane, as generating element, 144
 - movement of, into the fourth dimension, 147
 - realism appears to be divided into, 164
 - rotation about a, 130, 146-151
 - the seven planes of matter, 212
- Planes, a cube as a succession of, 148-9
- Plasm, kosmic, strivings of, 215
 - psychic, 260
 - the differentiation of, 214
- Plato, 322
 - and the divine geometry, 193, 237
 - — — shadow consciousness, 281
 - on God as geometrizer, 181
 - — ideas, 34
- Play, sensuous, of the intellect, 295
- Plenum, space as a, 230
 - the universe as a, 107
- Poincaré, 90
- Point, an infinity of parallels through a given, 70
 - as generating element, 144
 - position of, 132
 - succession of points, a line as, 148
- Polarity between concrete and abstract, 294-5
- Ponderability, as property of hyperspace, 63
- Popularization of the fourth dimension, 128
 - of the non-Euclidean geometry, 66-7

Possibilities in the world of hyperspace, 129
 — of four-space, the marvelous, 130
 Postulate-systems, the multiplication of, 85
 Powers of mind, not attained at one and the same time, 334
 Pralaya, 213
 — as kosmic quietude, 17
 Predicates, all mathematical, not justified by the phenomenal, 128
 Principle, ensouling, 214-5
 Printing press, the invention of, and the laws of psychogenesis, 30
 Problem, the fourth dimension as a transcendental, 140
 Procedure, the involved, of arriving at hyperspace notions, 73
 Process, evolution a continuous, 327
 — space as a dynamic, 307
 Proclus, 83
 Profundities, kosmic, and hyperspace, 156
 Progression eastward terminates at the west, 306
 Proof of rotation about a plane, 146-151
 Propagation of intuitographs, difficulty of, 315
 Propositions, geometric, subjunctive quality of, 38
 Pseudosphere and the shape of space, 70
 — as basis of Beltrami's calculations, 17
 — the nature of, 64-5
 Psychics of consciousness, 292
 — transmuted, 260
 Psychogenesis, alchemy of, 225
 — kosmic, 272
 — laws of, and the printing press, 30, 116

Psychogenesis, mind's place in, 123
 — outgrown phase of, 302
 — outstanding facts of, 131
 Psychogeny, defined, 17
 Ptolemy, 45, 52, 83
 Publicist, the mathematical, and the duodim, 128
 — the non-Euclidean, 146
 Pyknon as a kosmic principle, 212
 — — basis of space-genesis, 17
 Pyknosis, 212
 — and involution, 210, 231
 — as a metamorphic process, 214
 — the seven processes of, 17, 294

Q

Quality, dimension as commensurable, 140
 Quantities, algebraic, cannot represent space, 125-7
 Quantity, consciousness as a tri-space, 172
 Quartodim, 18, 134
 Quartodimensionality, 292
 Quartopyknosis, 17, 208-10
 Quartopyknotic, principle as basis of spirituality, 228
 Quintopyknon, 220
 Quintopyknosis and the *a priori*, 223
 — meaning of, 17; 208-10
 Quintopyknotic principle as basis of mentality, 228

R

Race, humanity to evolve a new, 358
 — resplendent, 338
 Rajah-Tamas, 220
 Rajah Yoga, 357
 Rational, valueless when unsanctioned by the intuition, 187
 Reaction, as a mystery, 167-8
 Real, Thinker as a part of the, 201

- Realism and its degrees, 164-5; 279
 — — the Thinker, 315
 — as life, 286
 — consciousness as touchstone of, 168
 — found in the direction inverse to the phenomenal world, 278
 — homogeneity of, 165
 — illusionary nature of, 36
 — infinite gamut of, 36
 — its degrees and the states of consciousness, 197
 — new scope of, bewilders the mind, 170-1
 — not of mathematical import, 290
 — of concepts and the sensible world, 40
 — — the domain of mathesis, 33-4
 — psychological quality of, 285
 — the thread of, 169
 — three dimensional scope of, 172
 Realities, abstractionizing, 144, 294
 — incomprehensible to the intellect, 126
 — innermost, of things, 356
 — lesser give way to greater, 195
 — natural symbolism of, 128
 — our, non-existent to beings on spirit-levels, 35
 — shaped upon conventional models, 294
 — supersensuous, 180
 Reality, as life and consciousness, 173
 — barrier to the cognition of, 189, *ff.*, 273
 — comprehension of, 165, 303
 — current of, 322
 — defined as life, 18
 — flow of, 319
 — flowing stream of, 124
 — myriad ways of presenting itself, 287
 Reality, naked contact with, 193
 — not an inscrutable quantity, 194
 — obscured, 302
 — of the four-space glibly asserted, 154
 — thread of, 200
 — universum of, 127
 Realms, supersensuous, 338
 Re-becoming, life and consciousness as a, 257
 Reciprocity of consciousness and realism, 197-8
 — of the manifest and the unmanifest, 217
 Recoil of images upon us, 167-8
 Reflexive development of the intellect, 254
 Relativity of all knowledge, 101
 Religion and realism, 170
 — the changes in, 358
 Remains of life exhibited to the intellect, 283
 Remaking of moods by the intellect, 201
 Replica of consciousness as basis of judgments, 205
 Representation, sensuous, compared with a shadow, 119-120
 Research, improvement in the methods of, 125
 Reservoir, psychic, of evolution, 260
 Residuum, the unexplained, 157-8
 Revelational impressions, 29
 Riddle of spatiality and the intuition, 325
 Riemann, G. F. B., 18, 19, 54, 66-7, 87
 — and a limited space, 108-9
 — — the curvature of space, 5
 — — — determinative period, 65
 — — finite space, 103
 — — — four-space, 27
 — — — manifold, 317

Riemann, G. F. B., as inventor of
the manifold, 86
— on the bases of geometry, 61-4
Roentgen rays, 336
Rotation about a line, 147-8
— about a plane, 146-151
— — — — illustrated, 148-50
— intra-corpuseular, 152
Rudimentary organs, vague func-
tions lying back of, 343
Rule in the evolution of faculties, 333

S

Saccheri, Girolamo, 47-8, 52, 83
Sajous, C. De M., on the pituitary
body, 345
Schematism, the suitability of the
present, 320-1
Schweikart, Ferdinand Karl, 19, 66,
69
— on the non-Euclidean geometry,
58-60
Science Absolute of Space, 60
Science and reality, 170-1
— no longer empirical, 358
— skeptical attitude of, 349
Scientist, method of the, opposed
to the analyst, 84-5
Scopographic impressions, 19, 190
Screen, the impregnated, of creation,
232
Sea, choppy, and egos, 256-7
Search, the path of, for spatial un-
derstanding, 278
Seb, the god, 215
Sects, coplanar, 79
Self and the immensity of space, 223
— of the universe, 217
— the kosmic, 278
Self-consciousness, 270
— and space, 223
— as I-making faculty, 243
— determination of, 302
Self-consistency, 173
Sella turcica, the, 345
Semi-Euclidean geometry, the, 70
Sensationalists on the intellect, 26
Sense-data, spurned by the meta-
geometrician, 73
Sense-delivery, one, justified by the
other, 76
symbolism of, 203-4
Sense-knowledge, the sphere of, ex-
tended, 339-40
Senses, the answer of, to new needs,
332
Sensible world, as domain of per-
ception, 19
Sensographic impressions, as per-
ceptions, 19
Senso-mechanisms of the intellect,
165
Sentience, the principle of, 210, ff
Septopyknon, the, 227
Septopyknosis, as kosmic material-
ity, 18, 208-10
Septopyknotic, the, principle, 228
Seven planes of matter, 212
Sextopyknon, the, 209
Sextopyknosis, defined as kosmic
sensibility, 18, 208-10
Sextopyknotic, as emotional prin-
ciple, 228
Shadow likened to a sense presenta-
tion, 119
Shadowgraphs, 281
Silences, nature's great, 339
Similitude of agent and principle,
243-6
Sinuosities in the pathway of life, 330
Socrates, 322
Solitariness of intellectual testi-
mony, 76
Space and edict of disorder, 230
— — four-dimensional entities, 128-
130

- Space and quartopyknons, 219-20
 - — self-consciousness, 223
 - — the idealized construction, 144
 - as a dynamic process, 216
 - — all-mother, 229-30
 - — an assemblage of spheres, 143
 - — becoming, 195
 - — boundary of another space, 49-50
 - — consistence of the kosmos, 239
 - — curved, 164
 - — dynamic appearance, 228, 307
 - — eldest born of kathekosis, 215
 - — engendered product of life, 308, ff
 - — evolution, 226, ff
 - — finite extension, 62, 106
 - — generable quantity, 103
 - — infinite continuum, 70
 - — intuitional concept, 225
 - — kosmic order, 265, 267
 - — nether pole of non-manifestation, 207-8
 - — path of life, 293-4
 - — pseudosphere, 70
 - — sheer roominess, 115
 - — system of coördinates, 99
 - — unbounded extension, 61
 - best study of, the consciousness, 269
 - conceptual, as basis of non-Euclidean geometry, 72
 - — fundamentally distinct from perceptual, 72-75
 - elliptical, 67
 - engenderment of, 260
 - essential nature of, 212
 - fabric of, the, lends itself to measurement, 99-100
 - four-, 8
 - fractionalized space, 296
 - foundations of, 221
- Space, four-dimensional, 41
 - Paul Carus on, 354
 - fourth dimension of, efforts at making it thinkable, 125
 - generability of, by lines, 143
 - genesis of, 227, ff
 - geometric, purely formal construction, 75-6
 - limits of and the Creative Logos, 193
 - manifoldness of, 77
 - mind and, the coevalism of, 240
 - mystery of, 278, ff
 - nature of, answered to by mind, 198-9
 - nether pole of non-manifestation, 207-8
 - non-Euclidean, the characteristics of, 72-3
 - not a pure form, 110
 - passage of, 16
 - path of search for, must be Thinker-ward, 278
 - perceptual, irreconcilable with the fourth dimension, 156
 - possible curvature of, and the non-Euclidean geometry, 76-7
 - primeval, and tridimensionality, 236
 - problem of devising a, 87-8
 - psychological nature of, 305
 - real, confounded with hyperspace, 91
 - Riemann on the curvature of, 5
 - the unity of, 224
 - — — — with matter, 260
- Space-activities, as chemism and physicism, 229-30
- Space-center, the, 306-7
- Space-consciousness, 225
 - as a direct process, 224
 - mergence of, with the individual consciousness, 195

- Space-curvature, as an arbitrary construction, 262
- as near-truth, 306
 - nature of, 279
 - no need for, 237
 - translation of, in terms of the intellect, 315
- Space-forms, the construction of, 74
- Space-genesis, 20, 232, 233
- alphabet of, 237
 - completion of, 226
 - norm of, 174
 - pyknon as a basis of, 17
 - symbolism of, 208, *ff*, 235
- Space-manifold, the, 279
- Space-measurement, and reality, Euclid's system of, 96
- systems of, 201
- Space-mind and archeological evidences, 193
- — knowledge, 187
 - — the Thinker, 253, 272
 - attainment of, 225, 231
 - granaries of, 235
 - the realization of, 238
- Space-process, the, 305
- Space-realities, hyperspace as a stepping stone to, 238
- Spark, the omnipsyche as a, 258
- Spatiality and the intellect, 263-4
- consubstantial with materiality, 20, 331, *ff*
 - cut-off from non-spatiality, 266
 - interpenetrative with materiality, 236
 - nonconformity of, with logic, 164
 - riddle of, and the intuition, 325
 - , rise of, 180
 - Thinker's outlook in, 316
 - world of nascent, 232
- Spencer, Herbert, 322
- Spinoza, 322
- Spiritism, the phenomena of, 154
- Spiritualists, the claim of, regarding the fourth dimension, 154-5
- Spirituality, materiality transmuted into, 328
- principle of, 210, *ff*
 - seeds of, 221
- Spiritualization of the flesh, 227
- — man's mental outlook, 40
 - — matter, the end of evolution, 327
- Squares, the form of, in the non-Euclidean geometry, 59
- St. Marie, Flye, 66
- Stage of pyknosis, 208, *ff*
- , quartopyknotic, 219, *ff*
- Stanley, Hiram M., on space as dynamism, 104-7
- States, the two, of consciousness; one unaware of the other, 192
- Straight, a, determined by two points, 79
- Stuff, etherealized four-dimensional, 160
- Sum, angular, 79
- triangular, less than two right angles, 59
- Superconcepts, as intuitographs, 255
- Superconceptual, as the intuitional, 20
- Superperception and automatism of the intellect, 20
- Superperceptual, the, 74
- Superunodim, the, 177
- Swedenborg, 180, 184
- Symbol, psychic, and the brain, 190
- words as symbols of ideas, 126-7
- Symbolism of life, 286
- — neurographical impressions, 186
 - — realities, 128
 - — sense-deliveries, 204
 - — space-genesis, 208, *ff*

Symbology, depicting planes of consciousness, 270
 — of mathematical knowledge, 203, *ff*
 Synchronous evolution of faculties and properties of matter, 332
 Syncretization of mind and matter, 299
 Synthesis and the norm of reality, 300
 Synthetic school of geometry, 56

T

Tactographic impressions, 190
 Tartrate and a component in the fourth dimension, 156-7
 Task of mental evolution, the supreme, 169
 Taurinus, 56-7, 69
 Telescope, its effect upon consciousness, 298
 Tendence, intellect as scientific, 165-6
 Tendencies, destined to flower as faculties, 89-91; 332
 Tendency to fragmentate, the intellect and, 296
 Tesseract as represented by Carus, 136-8
 — illustrated, 133
 — the, 20, 145
 — the elements of, 135
 — the four coördinates of, 132
 Testimony of the intellect, incapable of comparison, 76
 Tetragrammaton, the, 308
 Tetrahedron, the, 135
 Thalamencephalon, the, 345
 Thales, 44
 Theory of knowledge, 290
 Thingness of objects and the impossibility of comprehending, 122

Things, the dual nature of, 119
 — — value of, 161
 Things-in-themselves, the identity of, 353
 Thinkability of the fourth dimension, 125
 Thinker as a pure intelligence, 184, 248
 — — engenderer of the intellect, 291
 — — principal to the ego, 243, *ff*
 — — six times removed from the sensible world, 201
 — — the source of the intuition, 26
 — and concepts, 244
 — — his approach to the kosmic mind, 202; 223
 — — — larger life, 196
 — — — treatment of the ego, 246
 — — — of sense-impressions, 74-5
 — — realism, 315
 — — space, 193
 — — a segment of reality, 171
 — the, and the amplitude of the degrees of realism, 198, 270
 — and the barriers of consciousness, 207
 — — — brotherhood of man, 301
 — — — degrees of realism, 175
 — — — manipulation of concepts, 255
 — — — nature of space, 268
 — — — neurograph, 190
 — — — new faculty, 335
 — — — perceptive faculty, 188
 — — — pituitary body, 351
 — defined as the spiritual man, 21
 — his consciousness and the ether, 280
 — — dependence upon the ego, 245
 — — method of contacting the external world, 189-191
 — — outlook upon the universe of spatiality, 242

- Thinker, his schematism of cognitive powers, 206
 — — sphere of awareness, 283
 — the difference between, and the intellectuality, 256
 — — evolutionary needs of, 336
 — — upreaching yearnings of, 336
 Thinker-ward, space must be sought in a direction, 278
 Thinking, abstract, elevating influence of, 33
 Thought, prolonged abstract, benefits of, 249
 Time, as an aspect of consciousness, 224
 — divested of timeliness, 279
 Todhunter, 46
 Tool, fashioning, life as a, 264
 Topography of the intellect, 312
 Touchstone, consciousness as a, 168
 Tracery of connection between ideas and objects, 126
 Trafficking in mental constructions, 154
 Transcendental, the realm of, and mathematicians, 142
 Transfinite as a limit, 122; 216
 Transfinity, 21-2
 Tree-reality, 126
 Triadic phase of evolution, 210-1
 Triangles, angular sum of, 78, 88
 Tridim, the, 22, 129, 134, 147, 177
 Tridimension, the, 147
 Tridimensionality and primeval space, 236
 — and the space-mind, 193
 — a quality of perceptual space, 22
 — mastery of the phenomena of, 172
 — the sufficiency of, 198
 Tripyknon, the, 212, 213
 Tripyknosis, 17, 208-10, 219
 Truth compared with facts, 288
 — criterion of, 5, 323-4
 Truth, facets of, 284
 — kinds of, 324
 — Logic does not illuminate, 287-8
 Tuitive, the, and the intuitive faculties, 192-3
- ### U
- Ultima Thule, the, 207
 Unbounded, the, as a finite extension, 70
 Undulations, three, in the current of life, 329
 Unfoldment, mental, and meta-geometrical discoveries, 131
 Uni-circle, the, 308
 Unification of all knowledge, 256
 Uniqueness of real space, 95
 Unitariness of all existences, 241
 Unity, as end of analysis, 42
 — death as a fourth dimensional, 159
 — cosmic, integers as fractional parts of, 41
 — of mind and space, 224, 230
 — the new realization of, 225
 Universality, geometric, based upon the formal character of assumptions, 77-8
 Universe, a glorified, 226, 268
 — as a full, 308
 — — — plenum, 107
 — and the seven planes of matter, 212
 — character of, fixed by consciousness, 162
 — limited and conditioned, 127
 — not a pure form, 108
 — the perfected, and the circle, 310
 — — theory of the mechanical origin of, due to analytics, 40
 — unity in the, 301-2
 Universum of appearance, 187
 — of life and consciousness, 257

Universum of reality, 127
 — — space, 269
 Unknowable as a symbol, 194
 — the darkness which shuts out
 the, 207
 Unodim, the, 129, 134, 176-7
 — — consciousness, 163
 — defined, 22
 Upraisement of matter, 329
 Upspringing of a new faculty, 333

V

Vacuum-stillness of nature, 339
 Validity of mathematical conclusions, 101
 Value assigned by the intellect to
 the sensible world, 167
 — assumptional, vitiating influence
 of, 163
 — — of the ideal, 275
 Vanity of fragmentary evidences,
 204
 — of intellectual method, 325, *ff*
 — — segmenting space into many
 dimensions, 299
 Vassal, life as the, of materiality,
 329
 Vehicle of life, form as, 330
 — — — mind as, 286
 Vicissitudes of kosmic evolution,
 215
 Vision, the inner, 356

W

Wachter, 69
 Wallis, John, 46, 83
 Weismann, *note*, 260
 Words, as symbols of ideas, 126-7,
 204
 World and the child mind, 121
 — as instrument of consciousness,
 199; 298
 — fabric of, and geometrism, 261
 — impossibility of objectifying the
 fourth dimension in the per-
 ceptual, 124
 — of phantasy, conditions of, iden-
 tified with sensible realm, 146
 — phenomenal, and hyperspace en-
 ties, 128-130
 — sensible, as a carpet, 196
 — the domain of a perception, 19
 — — genesis of, 167
 World-plasm, kathekotic, 267
 — as elemental essence, 329

Y

Yoga, Rajah, 357
 Youth of the earth, the nebulous,
 335

Z

Zollner, and the claims of the spirit-
 ualists, 154
 Zones of Affinity, 22, 124
 Zoometer, the, 297

