The third postulate was that in the psychological depths of man there are certain archetypes. Among these are four of particular importance. They are the “shadow,” which consists of elements in the consciousness or psyche of man that are generally of inferior nature and that are thus then more or less repressed by the individual. Second, there is the “anima” in the male and the “animus” in the female. The anima consists of a feminine-like nature hidden in man. The animus consists of a masculine-like nature hidden in the female. There is also that which is called “Mephisto,” a positive and strong negative power. And finally there is the “Sage,” sometimes called the “Master,” which is a strong positive power in the psyche.

Dr. Johnson has made a very significant and thought provoking point when he stated that the archetypes in Dr. Jung’s system are really those powers represented by the gods in more primitive cultures, such as the gods of classical man and the gods of Nordic man. Here we have forces in our total psychology which become projected outwardly and seem to rule. There are such entities as Mars, who represents the principle of combat—determination by force. There is the principle known as Aphrodite, or in the Roman system as Venus, who governs the whole emotional relationship and working relationship between the male and the female—the power that keeps the stream of creatures flowing. There is also the god known as Apollo, the sun god, therefore the god of light, and since light represents consciousness, the god that represents that supreme value, consciousness itself.

Now, if we note the story of classical man, we find that there is a recognition of a strong affinity between Mars and Venus, or Aphrodite, that they tend to flow together; and if we note the wars in man that have happened in the world, and what is connected with those wars, we can verify this fact. There is also, however, Apollo. Now, in the history of classical man, two strong tendencies are noted: one is called the Dionysian, a compound of the Venus-Mars entities, and there is the Apollonian spirit. Apollo, the spirit of light, is reason. Mars-Venus is unregenerate nature in its primitive form; and this is the state in which most men and women in this world now abide.

At this point I shall have to draw upon information derived from personal self-criticism.

And here is another footnote. I do not use the word ‘criticism’ in the popular sense, but in the sense employed by Immanuel Kant. It is in the nature of a self-analysis rather than in the nature of a self-derogation or denigration. It is viewing and analyzing the elements in oneself treating them in an objective way. End of the footnote.

When I passed through my school years, I became, for the first time, aware of the essential belligerence of the young Western male, but personally shared only in limited degree in participation in it. Generally, I stood rather aloof and quite clearly went the
hermit way. But I was able to observe this, and even more particularly, to observe it at the time that I had been inducted into the army and forced to live in military barracks, where I discovered something which I did not know before.

When I became a teenager and passed through the period of adolescence two elements broke forth. One was the normal interest in the girl, and the other was a beginning of thought in my own orientation. Thought, as I look back upon it, in the days before adolescence was merely a reflection of the influences about me, which in my case was the influence of the parents, the teachers in the schools, and the clergymen in the church, of whom my father was one. I oriented to those who were older than myself rather than to my contemporaries. Thus the first experience of school was an unpleasant revelation. I contacted a belligerence, a tendency to struggle for position or place that was entirely alien to my own training. I tended to withdraw from it. This belligerence was channeled into sports; and today is not only a school activity, but an activity which draws an enormous interest from a large section of the public. It is also represented in the well-nigh universal exaltation of the principle of competition. Actually, law enforces the competitive spirit even upon those who have naturally transcended it and oriented themselves to the dominance of reason in economic activity. This tells us a good deal about how primitive our present humanity still is, not alone on the playground but even in the case of a predominant number of adults.

And I might enter here, as a sort of parenthetical statement, this fact: that we are now in the atomic age; rational man has unlocked the powers resident in the subatomic field. Among these are powers that are potentially constructive and also those that are potentially destructive on a monumental scale. It carries a threat of ultimate disaster if great care is not employed. Rational man has unlocked powers unfit for a belligerent world. Either this belligerence, still resident in the soul of man, must be domesticated or this power may very well destroy us, literally. It could even make this world uninhabitable. Therefore, I suggest that it is folly to cultivate the spirit of competition, of adversary relationships; that these should be overcome and replaced universally by the principle of rationality among peoples and among nations else we may destroy ourselves. As I look forth upon this world, I have little hope that man unaided can survive. If man would survive, then within limited time, reason must attain supremacy over all belligerence, all competitiveness, all adversaryism. End of the parenthetical remark.

I shall continue with the presentation of the material derived through self-analysis. As I said earlier, I recall that at the time of entering the period of adolescence, two interests broke forth: one was the interest in the girl and the interest in the competitive spirit; and second, the interest in thought. I began at that time to think for myself. I found a certain adversary relationship between these two interests and in that contest the interest in thought won out and I took essentially the way of the hermit, the way of the thinker.

There was a period in which I walked the streets in the dark—it was a time before street illumination—thinking, thinking, and thinking, most of all upon theological questions. I remember that I tackled the problem that if God knows all that shall happen beforehand, what about our freedom? I came to the conclusion that if foreknowledge could exist, then the course of one’s action must be predetermined. Later only did I learn of Calvin’s conception of predestination. And I took up another problem of particular importance, among others, the conception of the literal resurrection of the physical body.
I saw that this could lead to difficulties. I saw that the materials of the physical body of one individual would in fact disintegrate, and that those materials could be taken up by plants, and in turn that they could be consumed by another individual, and that the other individual could die when he had atoms in his body that were at one time atoms in the body of the first individual. And I took this question to our clergyman of that day and asked, “At the time of the resurrection, to which individual do these atoms belong?” And his only answer was, “Leave it to the Lord, my son.” That finished my confidence in Christian theology. I ceased to be a Christian in the theological sense; although, I never questioned or rejected the Christian ethic. In point of fact, I found that most of the Puritan ethic is a very good discipline in connection with the jnana yoga discipline. I handled many other questions during those walks, and I was beginning to develop my own point of view. The thought that started then has not ceased to this day.

Now, it is true that everybody does think more or less, but his attitude to thinking may be quite various. Most thinking, at least in our Western world, is very well represented by the pragmatic philosophy which was brought to birth primarily through the work of William James, John Dewey, and Peirce; and this has been in fact identified as the philosophy which best expresses the American spirit. But fundamental to this philosophy is the idea that thought, and ideation in general, is instrumental to a vital and sensuous concern. Life is fundamental, but thought only instrumental. In contrast, my personal orientation reversed this valuation. The thought I found and treated as terminal in value, and I regarded all that which could be validly subsumed under the concept of the biological and vital, and the sensuous, had only instrumental value. This led to a different type of orientation with respect to thought and led to consequences later that were of critical importance when I faced what the Oriental would call the asuric temptation.

To this day, I retain the relative valuation of thought and life that then broke forth but with this modification, that while I thought of thought then as ultimately terminal, it is for me today only relatively terminal, and that the ultimately terminal is something that transcends both thought and life. This we might call the truly spiritual; but the step that led to this second transcendence, I shall later report in this self-analysis.

There was, however, a brief period in the adolescent cycle during which I did orient to the hero. The hero was in the form of Napoleon Bonaparte. I read his life story and was rather strongly oriented to it. And that would be in line with the orientation to the Knight; however, this lasted but briefly. I soon found that the image among Western figures that had a more commanding influence upon my orientation was the figure of Sir Isaac Newton, and this is a matter of great importance. Napoleon represents the hero, the ideal of the hero, as do all great conquerors. Sir Isaac Newton brings the image of the Sage. Now note a very important difference. In the field of conflict, one wins his status bydowning the other fellow, by defeating him, or even killing him. One wins at the other fellow’s loss. But in the field of thought the winning of one does not imply the defeat or loss of the other fellow. It’s a totally different spirit. One may get the top grades in a class at school, but does not thereby require or imply that the others in a class cannot also receive or acquire the top grades. This transcends the principle of competition between person and person, group and group, nation and nation, and replaces it by a meeting of ignorance and attaining knowledge without implying in the least that thereby anyone else
is forced to sink into ignorance; but on the contrary, may result in rendering the achievement of knowledge on the part of others even equally possible. This is a new principle and one which I submit is not represented in the myth of the Grail.

Dr. Johnson states in his essay that every man has two experiences of the Grail—one in adolescence and one at maturity. This led me to review my early adolescent life to see if I could find anything that corresponded to this. It was some time before I thought I found what might correspond to it, although it does not follow the pattern of losing that Grail immediately afterward. In my third high school year, I took the course in trigonometry. This proved to be a critically important event. Formerly I had gone through arithmetic, the high school elementary algebra, and the Euclidean plane geometry. It is true that I got my best grades in this field, but it had not gripped me. When I entered into trigonometry, for some reason, all of a sudden I saw the meaning of mathematics, and I was charmed by it. I finished the first month and got a grade of one hundred. I decided to try for a hundred for the course, and I succeeded. I solved every problem correctly. I mastered the theory. I asked for no help other than that provided by the text. This was the outstanding achievement in the life up to that point. That was responsible for my taking a major in mathematics during my following academic career, and I do not remember that I ever failed a problem in all that time. I was unwilling to accept any failure. But as part of the confession, I must say that I never did well in the foreign languages and never could master spelling. I once got a zero in spelling. Now, there the confession is made.

Later I learned something when I studied psychology at the university that could explain this failure, something that was not known then in educational practice. It is another case of typology which existed before the work of Dr. Jung or of Sigmund Freud. I knew psychology in the days when the dominant figure was Wundt and the conception of psychology was experimental psychology. This typology was in this form: that there are three types that give the cue to meaning. Some individuals get the cue to meaning from the visual image, others through the hearing image, and, finally, there are those who get the key to meaning through the pseudo-pronunciation of the word. I happen to belong to the latter type. Those who are of the visual type can see the word in imagination. They are the ones who are capable of the most rapid reading. Those who depend upon pseudo-pronunciation can never read rapidly because the meaning is not aroused through simply seeing and they do not carry with them the image of the word. The good spellers, as well as the fast readers, are of the visual type. This is something that should be taken into account in educational psychology.

Each type has its advantages as well as its liabilities. An example of this is afforded by Bishop Berkeley, the philosopher, who had a strongly developed visual type of orientation, so it is reported. He maintained in his philosophy that it was impossible to conceive of the triangle, for instance, without thinking of a specific triangle. In other words, it was impossible to conceive of triangularity in the abstract. This would mean that to think triangle in his case meant the seeing of one triangle, and it would be a particular one. He could not, therefore, conceive of triangularityness, as such. I had no trouble with that problem at all; and this leads to the suggestion that the motor-verbal key to meaning is more favorable for abstract thinking than the concrete sensuous key of either visualization or of auditory images. This is merely a point in passing.
In the University of Stanford, where I matriculated in 1907, at that time the department of mathematics was in two forms quite independent of each other. One was called pure mathematics, the other applied mathematics. I majored in the department of pure mathematics. Now, there’s a significant difference in the attitude toward mathematics in these two departments; so much so that the division between them, I think, is very wise. In applied department, mathematics is viewed as an instrument for serving a purpose other than mathematical, as, for instance, in the handling of all engineering problems and handling the problems of the physical sciences, particularly physics. The ultimate interest is not in mathematics itself, but in the way it may be employed for a purpose other than that which is mathematical. In the pure department, mathematics is an end in itself. Mathematics is itself the object of study and the object of interest; and this fit me exactly.

Now, at that time, I had lost the orientation to the Christian current as it had been modified by theology for the reasons that I have delineated earlier. The result was that the religious void thereby produced was transferred to the mathematical field. Mathematics, of all things known to man, gives us the most certain knowledge we have. To this day, I find this to be true with this one exception: that when one through Fundamental Realizations attains “knowledge through identity,” which is neither sensuous nor conceptual, he then, and then alone, acquires an assurance higher than that given by mathematics in its pure form. But at that time, of all the things I knew, here alone was that which approached certainty.

There are different ways one may be oriented religiously. In the psychological sense, as Dr. Jung has pointed out, God means the supreme value. Here it is not a metaphysical conception. It does not bring up the question as to whether God is a metaphysical reality, a real existence; it is simply a psychological fact, a sort of archetype in the psyche. But the God may be viewed with certain different emphases: thus one may say that love is God, that beauty is God, and so on. With me, truth was God, and still is, in that sense. And truth of the highest order possible to man this side of Enlightenment or Fundamental Realization, it still is mathematics that gives us by far the most certain truth we know. Therefore, in my mathematical orientation there was not merely an academic interest, there was something that might be called religious in it. Here, I was studying truth. The operations, the technical operations, which one deals with are not only operations, they are something that arouse a metaphysical interest. What is the metaphysical meaning of the various mathematical concepts? What way of consciousness corresponds to them?

I have known on a couple of occasions the rare experience of mathematical beauty; something transcended only, so far as I know, by Fundamental Realization. One seems to stand above the universe where the cosmos becomes but a small fact in the infinitudes of the mathematical world, and one has an experience of well-nigh ecstatic beauty and delight in it. It’s not an easy experience to attain. It is realized only at a level of very intense concentration and cannot long be maintained, but it was a foretaste of that which came later.

Now then, my principle minor, as I’ve already noted, was in the field of psychology. I was admitted by the professor as a freshman to take courses that were ordinarily opened only to sophomores and upperclassmen. I became reader for the classes
in following years; that means the one who gave the grades. So I got along in psychology all right, and I even worked for some time on a particular technical problem. But, here is the point: when I left a mathematical class and the exaltation of moving in transcosmic spaces and went over to the psychology department, I felt a great devaluation. The psycho-biological orientation ruled there, and its attitude towards the mathematical experience was essentially this is nothing but; the reality after all is only mundane—the psycho-biological. And that was like stepping into the cold, into disillusionment; into the feeling there is nothing sacred at all. I found that there was a basic hostility between the spirit of pure mathematics and the spirit of experimental psychology. Nonetheless, I continued to work with both, but not without an element of becoming acquainted with a potential enemy when I was working with psychology.

It must be remembered that those were the days of experimental psychology before depth psychology had come forth and was recognized. The big name of the time worldwide was Wundt. The leading name in this country was Titchener. It was subsequent to the days when William James was the big name in America. The work of Sigmund Freud was not yet recognized, and Dr. Jung had not yet emerged. In fact, I found that many in the Stanford faculty felt that psychology was a false science and should not have been dignified by being established as a department. Later, many years later, I became acquainted with the work of Dr. Jung, first through his Psychological Types. I readily saw that the type psychology had a definite bearing upon the field of yogic method for adaptation of method to the needs of a particular kind of individual. The yogic method that fits one type of individual could very well be inadequate or even detrimental to another type of individual. So I gave to Jung’s work a considerable concentrated attention, and, in fact, gave him a total of about ten years of primary study. Nonetheless, I could not exclude the feeling that here was something that devalued that which I found by far the most valuable. There is a basic nothing but-ism in the psychology that is oriented to the biological.

But after admitting that I found much in Dr. Jung’s work that was of substantial value in connection with my own work, yet the fact remains that I often found that his statements were inadequately supported. He arrived at conclusions in ways that I could not trace. Something was strange here. I would read and follow his thought for a time and then there would be a leap to a conclusion that seemed like a non sequitur. Thus, there was something alien to me in it. And this became explained when his biographical work Dreams, Thoughts, and Reflections was published.\textsuperscript{1} He made a personal confession. He said he was never able to understand mathematics even from his student days up to old age. He could not grasp one of the most simple and elemental principles in all mathematics, namely, if $a$ equals $b$, and $b$ equals $c$, then $a$ equals $c$. This you will find in the section of the biography called “Student Days.”\textsuperscript{2} We must assume it as true, as he fully acknowledges it.

Now, to my mind nothing at all could be more obvious than the conclusion that if $a$ equals $b$, and $b$ equals $c$, then $a$ must equal $c$. This is really no more than a modification of the syllogism of Aristotle. Just reverse the relationship of the major premise and the

\textsuperscript{1} The title is Memories, Dreams, Reflections.

\textsuperscript{2} This section is actually called “Student Years.”
minor premise in the Aristotelian syllogism and you have a dead ringer for this mathematical statement: thus, Socrates is a man, all men are mortal, therefore Socrates is mortal. Now change it and introduce the letters: all a is b, all b is c, therefore all a is c. It’s a perfect duplication except that in the mathematical form the sign for equality equals is substitute for the copula is. Now, it is characteristic of the logical propositions that an affirmative universal cannot be converted simply. One cannot say that because all men are mortal that therefore all mortal beings are men, for there are many animals and plants that are definitely mortal beings, yet they are not men. Therefore, the predicate has a greater extension than the subject. In the case where the equal sign is employed, a simple conversion is quite possible. From a equals b, it follows that b equals a, and that is equivalent to simple conversion. He apparently was able to understand Aristotelian logic, as was evident in some of his critical analyses of scientific conceptions, but he was blocked in some curious way when the method of mathematical abstraction was employed. And this implies that the whole domain which to me had been most important of all was to him a closed world. And I cannot fail to conclude that he could not have a sympathetic understanding of my own personal psychology. In other words, here we have the explanation of why there is a failure of cross-understanding on my part with part of his thinking, and there must be, by implication, a similar failure of cross-understanding on his part of my own primary thinking.

This, I think, is a matter of psychological importance. I am not only individual, I am also a representative of a type; and that type is outside the range of Dr. Jung’s psychology in certain important respects. Therefore, I am saying that we need something more than can be found in the Jungian psychology, though his is the most comprehensive of any that I have so far seen. The same disability was expressed by Goethe, but he indicated regret that this was so. Dr. Jung made a counter-remark and indicated that he felt that if he had been open to mathematics he could have been fooled. That puts Dr. Jung and myself in opposite camps.

In one of Dr. Jung’s essays, I think it is in the psychological commentary connected with the volume The Tibetan Book of the Great Liberation, he has stated that that which to the East Indian Oriental is treated as metaphysics is for the Western man treated as psychology. This is rather an illuminating statement, for the Eastern man the deep insights are truly transcendental in their meaning, or tend to be so, while there is a certain mundaneness in the orientation of the Western psychological student. I see the contrast between Eastern man and Western man in other terms. I agree with Dr. Jung that the Eastern man tends to be oriented to the metaphysical, or the transcendental, and in this respect I am fully Eastern myself. But I see Western man as oriented to the mathematical in the situation that would correspond to the Eastern man’s orientation to the metaphysical. I see the mathematical and the metaphysical as a contribution from the East and the West, and that the marriage of these two is in a sense the effective meeting of East and West.

In this connection I have something to say concerning the primary orientation of Western man. Dr. Jung has said that Western man is primarily Christian, and that implies a different attitude towards the problems of life from the Oriental who is oriented to a metaphysical point of view. I would refer the hearer to a volume put out by Dr. Northrop called The Meeting of East and West where he has identified as the simplest statement of
the Oriental spirit the orientation to the aesthetic component in things; that in contrast, the primary orientation of Western man is to the theoretical component. Now, in a sense Western man is Christian, no doubt, but the Christian element was an importation from the East, and in a way superimposed upon his primary orientation which I think is well represented in Dr. Northrop’s statement that if we penetrate into the psyche of Western man below that Christian superposition, we find this emphasis of the theoretical component in things. And this is the reason why science and its application is so fundamental in the West—something that I would suggest is more fundamental in the psyche of Western man than the superimposed Christianity; and that instead of Christ being the primary figure with respect to Western man, it really is Pythagoras, for Pythagoras was a mathematician, philosopher, and mystic. And I must confess that that orientation parallels part of my own basic orientation. Pythagoras was a great mathematician at an early time, and introduced the most fundamental principle of all, namely, the principle of proof; but he was also a mystic and a philosopher, and that this is the keynote which is expressed in the whole mathematical, scientific development of Western man. Therefore, the meeting of Western and Eastern man is in the terms of a correlation between the theoretical and the aesthetic. But this does not apply so fully to East Indian man, for there we find some figures who emerge in monumental form as representatives of the theoretical spirit. I would name as the supreme figure in this domain Sri Shankaracharya.

In Dr. Jung’s biography he tells of an experience which is just as impressive in a positive sense as the failure to understand the elements of mathematics is in a negative sense. It seems that as a high school student, or the equivalent, he read on his own decision, the Critique of Pure Reason and attained a substantial degree of understanding. This is really incredible, for the Critique of Pure Reason is ordinarily worked upon in the graduate departments of philosophy and not considered as available to the understanding of the ordinary unprepared student of philosophy. I marvel at this. And here we do meet on a common ground. I twice went through a course on the Critique of Pure Reason because of its supreme importance in the history of philosophy—once at Stanford and once at Harvard. But the Critique of Pure Reason is an analysis of thought to determine in what way and under what conditions thought is valid and in what way and under what conditions it leads to miscomprehension or invalid conclusions; as, for instance, in the effort in the case of the ontological argument for God, to assume that from the sheer idea of God we can infer the reality of God—something that Immanuel Kant demolished as a valid argument. Immanuel Kant’s work was critical. The mathematical use of thought is constructive and positive. Both elements are necessary.

One fundamental conclusion arrived at by Immanuel Kant was that concepts without percepts are empty, and percepts without concepts are blind. This implied, though, an ultimate conclusion that we are excluded from a transcendent or a metaphysical by means of thought. The conclusion is negative. I accept the soundness of his analysis here, but believe I have introduced the means whereby this barrier can be transcended by determining that there is not only sensuous cognition and conceptual cognition but a third way, which I have called “introceptual” cognition, and by the combination of conceptual cognition and introceptual cognition we can enter into the transcendent.