Out of the kindness of Rimpoche, I have recently come into possession of a two volume work entitled *Buddhist Logic* by Stcherbatsky. This was originally published in 1930, under the auspices of the Academy of Sciences of the U.S.S.R. I am greatly impressed with the work as far as I have continued in it. It is not, in our Western sense, exclusively a work of logic, although it does deal with the problems of inference, of reasoning in general, including the syllogism. But in addition to the domain of formal logic itself, it includes substantial material which we would classify as epistemological and psychological—the latter in the older sense more analogous to that of the rational psychology in the traditional division of metaphysical subject matter under ontology, cosmology, and rational psychology. It is not psychology in the modern Western sense, either of experimental psychology—the kind of work which was founded by Fechner and carried on by Wundt, Kulpe, and Muller, and by the American descendants of these leaders since that time—nor is it a psychology in the sense of the clinical psychology of Freud, Adler, and Dr. Carl G. Jung. One must infer, I think, that the psychology is based upon the introspection of the writers of it as individuals, and not, therefore, a collection by experimental means of the testimony of and introspections of many individuals. The primary works upon which this volume, or two volumes, are based is the logical contributions of Dignaga and Dharmakirti. It contains a brief history of Buddhism which will be of interest to us as it reveals a development in Buddhistic thought.

There were, it appears, three periods of Buddhism starting with the original founding of the movement by Gautama himself, and these have their characteristic forms. The first period lasted for about five hundred years, and it had a pluralistic orientation. It seemed to be basically realistic, by which we mean that it seemed to regard the analysis as applying to a real world about, that is, a world assumed to be an existence outside of consciousness. And it is in that sense that the word ‘realistic’ is here employed as is characteristic with our own current use of the term. It was very characteristic of the first period to deny the reality of the soul or *Atman*, or, in other words, of a persistent entity that constituted the individual. The individual was viewed as a bundle of elements. And this brings up a problem, for, in general, this *Anatmic* feature is present throughout the three periods of Buddhism, with a greater or less emphasis, but always there present. There is not only the denial of soul, there is the denial, also, of the existence of matter, or substance, and, also, of the existence of God. However, there were elements that made up different components, and these elements were interconnected by a causal chain; and this, also, is a factor to be found throughout the three periods The desirable goal of this early Buddhism was attainment of quiescence in *Nirvana*—all of life being viewed as essentially a condition of suffering. And the statement of the four noble truths as given in this text is as follows: a) life is a
disquieting struggle, b) the origin of life consists of evil passions, c) the goal is eternal Quiescence, and d) the path to extinction of the energies that form life is that which is most supremely to be desired. It is not clear whether the nirvanic state is viewed as a conscious state or just an extinction of consciousness, and, therefore, in the essential sense—though not necessarily in the sense of energies—but in the sense that is essential to man, it could be possibly viewed as simple extinction or annihilation.

There is a point that comes up in my mind as I look at the four noble truths as stated in this case. It is said that the origin of the disquieting struggle known as life is evil passion. Origin suggests that we go back to a non-active state where there was no life whatsoever; how could there be an arousal of evil passions in such a condition? This is a question to which I think an answer is required.

[The first] form of Buddhism is not a religion in the sense we commonly understand religions; that is, there are no great beings to which a devotion should be directed. The Buddha is considered as human and extinct in Nirvana; he left a body of precepts which one could put into practice, and by so doing ultimately attain the same state of extinction in Nirvana. It could be called an essentially non-religious, humanistic movement. Now, when we come to the second stage, all this is changed.

[The] second period differs from the first primarily in that it is monistic, whereas the first period was pluralistic. And as a result of this monism which asserts that ultimate reality is one motionless whole, it follows that the reality of the elements of early Buddhism was regarded as not ultimate. They are in a certain sense a maya, or unreal. However, the principle of causality is retained and is viewed as a foundation stone. The Anatmic principle also is retained. And there is not only the ultimate reality, but also a surface reality that has a certain relative truth; and it is stated that the emphasis of these two forms of reality, the surface reality and the ultimate reality, takes the place of the four noble truths of the early form. And characteristic of this stage is the assertion of the equipollency of Sangsara and Nirvana; that there is no essential difference in them; that, in other words, they are composed of the same root substance, as it were, in simply different phases, one the equal of the other—or one might say in mathematical language that the sum of the two is always equal to zero. This period also was emphatically anti-logical. In fact, there was an attitude of a ruthless, or merciless, condemnation of all logic; the emphasis was upon mysticism and revelation. And this may explain certain features to be found in the philosophy of Nagarjuna. Nagarjuna’s thought is characterized by a destructive criticism, and it would be explained if one understood that the goal was the destroying of all logical thinking whatsoever and orienting of the consciousness to a purely mystical form of consciousness. It is also characteristic of the second phase that the objective is not simply the attainment of an individual salvation, but rather the attainment of a universal salvation of all creatures. And this leads then to what is known as the Kwan-Yin vow or the ideal of the Bodhisattva who refuses to accept final peace by himself. Buddha has become transformed into something like a cosmic principle, much more than a mere empiric human being. He is that which takes the place of the God in the theistic religions. While, philosophically, the cosmic Buddha is not to be viewed the same as the God of the theist, nonetheless, in practical terms, this supreme entity becomes an object of devotion; and, thus, we have a clear cut deviation in the second period from the merely humanistic attitude which was common in the first period.
[The] keynote of the third period is Idealism. This means that the realistic point of view which was characteristic of the first two periods is now rejected. We do not now have an orientation to a real world existing apart from consciousness, but rather a recognition of the fact that all we have to deal with, all that we can render any predication concerning, is an existence in and for consciousness. In this respect, my own philosophy has more in common with the third period than with the first two. There remains, however, the Anatmic position and the orientation to the causal chain, but there now enters into the picture a keen interest in logic. And, in fact, this is the period in which the outstanding names are Asanga and Vasubandhu, in the stricter sense, and of Dignaga and Dharmakirti also. And as the logic is most developed in this period, the main interest of the text in the book called Buddhist Logic is oriented to the two figures known as Dignaga and Dharmakirti. In this period introspection is accepted as real; and thus the orientation is against the universal skepticism of the second period, and therefore against the destructive philosophic emphasis of Nagarjuna. There is denial of the external world. All existence is mental. There are ideas that are accepted and classified as follows: “fanciful, relatively real, and absolutely real.” And there is introduced in the earlier period of this period, the conception of a “store-house consciousness,” or receptacle consciousness, as that which retains the collection of consciousness of the individual. It is a sort of substitute for a soul or self, and was rejected by many of the thinkers but retained by some. There is also introduced the notion of a “Biotic Force.”

This, then, presents to us a story of development in what we know as Buddhism. It is clear there is not one root philosophy which remains unchanged throughout the whole period. And yet members of these different periods, or those who are oriented to the emphases of these different periods, may be present in the same monastery and generally accepted as fellow Buddhists. And yet there are philosophical incompatibilities involved in these three periods. So this brings up some very interesting questions: if Buddhism is not confined to a particular philosophic point of view, then we may reasonably expect that there can be a development of Buddhistic philosophy that is not precisely the same as these already extant forms—that there is, in fact, an evolution. To be sure, the same idea of evolution in conception exists in the history of Christianity. Views have developed in the past and are current today in traditional Christianity, certain views being so very different from others that there is a logical incompatibility between them, and yet they are all grounded in a primary orientation. In Christianity there is a primary orientation to Christ. In Buddhism there is a primary orientation to Buddha.

Now, a question arises: what is essential to a point of view or attitude that it may be classed as Buddhistic since some radical differences are tolerated? It would seem that these features are common to all: that there is, first, a primary orientation to an entity and principle called Buddha. Buddha, in the beginning, appears as an empiric human being; but Buddha also means Enlightenment, and the orientation may be emphasized in the direction of the principle of Enlightenment rather than in the direction of a human personality. Nonetheless, there is an attitude of a fundamental affection towards that human personality that seems to persist through all. Also, the entityhood of the Buddha may be transformed into that of a cosmic principle, or cosmic entity, that at least in the psychological sense may be viewed as a form of a divinity, although not in the typical theological sense of an entity as being the Root Source of all that is. There is, thus, a highly religious aspect present in some forms of Buddhism, but the highly religious...
aspects, the devotional practices, and so forth, are not universally required. There can be development of ritual and ceremony, the use of genuflection, and so forth, in some forms of Buddhism, while other forms of Buddhism may be more austere and more rationalistic, giving more emphasis to thought and philosophy. There is a richness here and a certain freedom because it would appear that there is not clash, in the sense of war, between the different divisions as there has been in the history of Christianity.

Fundamental with Buddhism—as with most Indian thought and all Western thought so far as I know it, with the exception of my own—is the division of cognition into two forms, namely, cognition through the senses, or what I call perception, and cognition through ideation, or what I call conceptual cognition. With the Buddhists, these are viewed as direct cognition and indirect cognition. And apparently it is characteristic of all the divisions to view the sensuous cognition as primary and original. [The] idealistic form of Buddhism should not be confused with what we know as the post-Kantian, German school of Idealism. It is more akin to the Idealism of Bishop Berkeley, where the sensuous factor had primacy, and not akin to the Idealism of Hegel where the conceptual factor had primacy. There is one variation from this division into two forms of cognition which may be of interest to us and that is a third form acknowledged by the Sankhya philosophy. This third form was known as possible revelation. It has, thus, a certain kinship with my own third form, which, however, is oriented to Realization as something distinct from both perceptual cognition and conceptual cognition.

Now, to get the picture of the Buddhist point of view as represented by the third division, I shall read a small section from the text in the chapter entitled “Ultimate Reality” or “Paramartha-sat”:

What is Ultimately Real

The two preceding chapters and the introduction must have elicited with sufficient clearness the manner in which the Buddhists of the logical school have tackled the problem of Ultimate Reality. Positively the real is the efficient, negatively the real is the non-ideal. The ideal is the constructed, the imagined, the workmanship of our understanding. The non-constructed is the real. The empirical thing is a thing constructed by the synthesis of our productive imagination on the basis of a sensation. The ultimately real is that which strictly corresponds to pure sensation alone. Although mixed together in the empirical object, the elements of sensation and imagination must be separated in order to determine the parts of pure reality and of pure reason in our cognition. After this separation has been achieved it has appeared that we can realize in thought and express in speech only that part of our cognition which has been constructed by imagination. We can cognize only the imagined superstructure of reality, but not reality itself.

It may be not amiss to repeat here all the expressions with the help of which this unexpressible reality has nevertheless been expressed. It is—
1) the pure object, the object cognized by the senses in a pure sensation, 
that is to say, in a sensation which is purely passive, which is different 
in kind from the spontaneity of the intellect;

2) every such object is “unique” in all the three worlds, it is absolutely 
separate, i.e., unconnected in whatever a way with all the other 
objects of the universe;

3) it is therefore an exception to the rule that every object is partly 
similar and partly dissimilar to other objects, it is absolutely 
dissimilar, only dissimilar, to whatsoever objects;

4) it has no extension in space and no duration in time; although an 
indefinite sensation produced by an unknown object can be localized 
in time and space, but this localization is already the work of the 
understanding which locates the object in a constructed space and an 
imagined time;

5) it is the point-instant of reality, it has no parts between which the 
relation of preceding and succeeding would obtain, it is infinitesimal 
time, the differential in the running existence of a thing;

6) it is indivisible, it has no parts, it is the ultimate simple;

7) it is pure existence;

8) it is pure reality;

9) it is the “own essence” of the thing as it is strictly in itself;

10) it is the particular in the sense of the extreme concrete and particular;

11) it is the efficient, it is pure efficiency, nothing but efficiency;

12) it stimulates the understanding and the reason to construct images 
and ideas;

13) it is non-empirical, i.e., transcendental;

14) it is unutterable.

[And the text goes on to say:]

What is it then? It is something or it is nothing? It is just something, only 
something, something “I know not what.” It is an X, it is not a zero. It 
could be at least likened to a mathematical zero, the limit between positive 
and negative magnitudes. It is a reality. It is even the reality, the ultimately 
real element of existence. There is no other reality than this, all other 
reality is borrowed from it. An object which is not connected with a 
sensation, with sensible reality, is either pure imagination, or a mere name, 
or a metaphysical object. Reality is synonymous with sensible existence,
with particularity and a Thing-in-Itself. It is opposed to Ideality, generality and thought-construction.  

What we have here is something which may be defined as a radical sensationalism—something which is far more radically sensational than Western empiricism. The English empiricists and the American pragmatists never went this far. For the latter, there does exist in the empiric field existences such as mountains, trees, houses, cities, valleys, streams, lakes, and so on; but for this radical sensationalism of the Buddhistic philosophy, these are not existences, they are complexes which are constructed by a combination of the understanding acting upon sensuous material. The reality here, the ultimately real, the Paramartha-sat, is pure sensationalism, in the most radical sense; in fact in a form which it is well-nigh impossible for the Western mind to conceive. In that radical sensationalism there are no mountains, trees, houses, streams, valleys, lakes, and so forth, but only instant points of sensation which are totally incommunicable and with respect to which words are only names or pointers but not to be understood at all in the sense of logical universals.

Something of what is meant here is suggested by Korzybski in his Science and Sanity concerning the meaning of ‘meaning’. For example, if we take the word ‘table’, we can illustrate its usage in the two senses of a reference to an object which exists sensuously and in its nature as a dictionary definition of the word. In its sensuous sense, the meaning of the word table is that which is experienced by, say, placing the hand upon the table. You step over into a sensuous order, and that is given by Korzybski as the real meaning. On the other hand, if we look up the word in the dictionary, we get a definition which we may say represents “tableness,” the quality of being a table, and we have a universal, a conceptual universal, or a logical universal. These are two different orders in the usage of word symbols and the distinction between these two is a matter of the very highest importance. The word may be the same word, and yet used in two very different senses; and this becomes especially important because the confusion of these two usages of the word may lead to a major misunderstanding—so much so, that I would say that after 50 or 60 years of acquaintance, in a greater or less degree, with Oriental thought and philosophy, just now I have realized that in a fundamental sense I have misunderstood the Oriental thinker because I have interpreted his concepts in the form of logical universals when they may well have been used in the sense of nomen or in a nominalistic pointing. They mean something beyond the conceptual order in a different form of cognition, which here in the Buddhist Logic is represented as exclusively, pure sensuality, and I never knew that before.

The standpoint of Buddhistic philosophy, as given in this book called Buddhist Logic, is a radical, pure sensationalism, and that is differentiated from the meaning of the word ‘experience’ and the word ‘empiricism’ for the latter two are viewed as a complex involving both the direct cognition, called sensation, and the indirect cognition, which I call conceptual cognition. There is a construct, it is said, of the imagination, of recollection, of re-cognition that turns the immediate sensation into a system of determinate objects, and that is what we get through the empiric, as distinct from the

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purely sensational. We can, in some measure, identify with words the empiric; we cannot identify with words the purely, unutterable sensational.

It would appear here that for the Buddhist, the ultimately real is the absolute particular, and this places it in the most radical contrast possible with the standpoint represented by Plato and even Aristotle, for Plato most characteristically represented the universals, or the eternal ideas, as having the greater reality as contrasted to the sensuous order. In fact, he viewed the sensuous order as, in a certain sense, evil or demonic; whereas, the universals, which we would call the logical universals, are the eternal and divine. A contrast could hardly be more radical; and as a personal confession, at this point I am definitely closer to Plato than to the Buddhistic philosophers as represented in this *Buddhist Logic*.

It is here said that we get the true sensational impact only at the entering moment of a sensation and that immediately after, it becomes an empiric experience which, remember, is a combination of the sensuous element with recognition, recollection, imagination, and so forth, which comes from the indirect cognition. That part which comes from the indirect cognition can be communicated, but the portion that comes from the pure sensation cannot. This moment, alone, is therefore viewed as real, and it is termed in the text a “point-instant.” Now, by a ‘point’ we mean that which has position in space but no extension whatsoever, and by an ‘instant’ that which has position in time but no duration. So a point-instant would be something that has no extension and no duration. This is precisely that which is viewed in this text as the real, as the authentically of the nature of Paramartha-sat, ultimate reality, and it is even called “transcendental.”

To isolate this practically is a matter of considerable difficulty. The original source of it is said to be through introspection, a mediate experience in the most absolute possible sense. I’ve tried to isolate this and find it very difficult to do so. I have suggested exercises in the past in which we strove to isolate this pure element and we did have a partial success, and along with that partial success there was an experience of a minor delight. In other words, we determined that there is something of value that can be achieved by moving in this direction. But a question arises at this point: since it is true that all cognition in this relative world is dialectical, in this sense, that we do not know anything whatsoever, cannot identify anything whatsoever, save by contrast with that which it is not—thus we do not know up except in contrast to down, and vice-versa, and so on through all of our cognitions—the question would arise, can one by any possibility isolate a point-instant if he does not have at the same time a cognition of extension both in space and in time? But beyond this, the conception of a point-instant at once recalls to one’s mind a parallel conception in the discipline known as differential calculus; and, in fact, Stcherbatsky has made this notation. And right here we can bring out, I think, in peculiar contrast the two different approaches that belong to the aesthetic and the theoretic components.

The differential, $dx$, may be defined as a quantity which is less than any assigned quantity however small. To illustrate what we mean here we have to bear in mind a variable quantity that approaches a limit, and I may refer again to the very simple series of $1 + \frac{1}{2} + \frac{1}{4} + \frac{1}{8}$ and so on, which approaches a summation limit of 2. We could say this: that the sum of all of the terms in this series, up to any given point, can be brought to a quantity which differs from 2 by less than any assigned quantity however small, and
this can be achieved in a finite number of steps in any particular case. But there is that unended conception which conceives of this process as continuing indefinitely, so that in the limit we have a difference which is infinitely small; and we represent this difference by the terms $dx$ or $dy$, $dz$, and so forth. We may think of these as numbers that are akin to zero and yet not precisely the same as zero; but we would derive a zero by subtracting 5 from 5, for instance, or in general $n$ from $n$, or adding $n$ and minus $n$. But our $dx$s and $dy$s would seem to be in the nature of infinitely small numbers, ghosts of numbers as it were, in the vicinity of zero, and yet not exactly identical with zero. And to illustrate this point, we take a ratio such as $dy/dx$ and consider it in connection with the ratio zero divided by zero. Zero divided by zero is indeterminate; you cannot say that it goes into it once; it actually has no determinate value whatsoever. Nonetheless, in general, $dy/dx$ does have determinate value which, usually finite. It is as though we took infinitely small entities which in a ratio to each other give, in general, a finite value.

Now, I know that one who is not familiar with this kind of thinking might view it as a kind of fairy land that is quite unreal; but stop and think, it is with this particular discipline known as differential calculus, with its sister or complementary discipline known as integral calculus, which has had the most practical usage in both pure and applied science. Literally, without this discipline we could never have put a man on the moon. We could not master modern technology without this discipline along with other sister disciplines. It, therefore, has an enormous practical value. It must be remembered that this particular mathematical system had to be produced, discovered, or created, by Sir Isaac Newton before he could handle the problems presented in his *Principia*. It has, thus, a bearing in the field of practical usage.

Now does it exist? Is it real? From the standpoint of mathematics, we would say that any system of thought, rigorous thought this is, that is self-consistent exists. And, therefore, we would say it has a reality not inferior to immediate sense impression. It carries an impact which cannot be changed by our imagination. We cannot think as we please; we are forced to think in accordance with rigorous logic. It therefore has a realistic impact in no sense inferior to the realistic impact of raw sensation. This is a point of supreme importance. Raw sensation, for those oriented to the aesthetic component, may be the ultimate, but self-consistency is the ultimate for the theoretic component. But we can go further than this, and we can show that the control over events, over processes, and so forth, which are achieved by these mathematical disciplines, can lead to results that affect the aesthetic domain. It is only by means of techniques like this that we were able to place a man upon the moon, that we were able to develop the theory of relativity, and out of that, with certain other conceptions, the breaking out of the atom bomb and the atomic energy which we are using practically today. Throughout a long process, particularly in this example, there is a development of pure theoretical thought. Einstein emphasized space and time as abstract conceptions from which he drew conclusions, ultimately that were later empirically verified. He was able to predict certain experiments that could be made, and were later actually made, leading to empiric results that were so close to the theoretical prediction that it was virtual verification in an absolute sense.

Now, what does this mean? Out of Einstein’s work there is a particular formula or equation in the form of $E = mc^2$, where $E$ represents energy, the $m$ represents the mass of any given substance, in the usual sense of substance, and $c$ is the velocity of
light, usually given in centimeters. Now, the velocity of light in miles is roughly 186,000 miles per second. The square of that is a very large number. It means that the mass of energy which can be produced by the destruction of a piece of matter is simply enormous. It has been calculated that if we took a piece of matter the size of a pea and destroyed it completely by transforming it into energy, we would have enough energy to drive the largest vessel on the water across the Atlantic if we could harness all of that energy. Actually, in our history, the atomic bomb that destroyed Hiroshima consisted of 20 pounds of uranium-235, and $\frac{1}{1000}$ part of this bomb was transformed into pure energy; and that was sufficient to destroy the whole city.

Now, what has happened in this case? We have followed a course of pure theoretical thinking using logical universals, for that is the subject matter of mathematics, and have arrived at a resultant which applied in the aesthetic domain produced an enormous aesthetic effect. Actually, we have today as a result of this kind of thought the power to render this whole planet incapable of sustaining life. Now, here we have what some individual might call just an unreal idea, something that exists only in the theoretical imagination, but with the power to produce a cataclysmic aesthetic effect; therefore, it commands power over the aesthetic component, the domain of the pure sensation. It has a potency or an efficiency that is manifested in aesthetic terms and, therefore, something which the sensationalist cannot disregard. He is not justified in calling it only a figment of the imagination and unreal. Here an idea has the potency of being able to change the whole aesthetic domain in which we live. Therefore we must conclude, I believe, that this is just as real, or at least as real, as the pure sensational component itself. And all of this domain is a domain neglected, very largely, in the Buddhistic philosophy as developed in this book called “Buddhist Logic.”