Double Helix

Master of Philosophy (M.Phil.) Papers

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Circa 1974

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On the basis of these papers I was allowed to transfer from M.Phil. to Ph.D. studies. Some of these papers were started on a M.Sc. course prior to transfer to M.Phil. This is a scan of the papers submitted to Professor David Martin, Sociology Department. Footnotes, except for part one, are lost. This paper has been OCRed 070603 and the corrected file is available as DHA01aNN.doc where NN is a number. After this I went on to complete a Ph.D dissertation called The Structure of Theoretical Systems in relation to Emergence which was accepted 1982 for award of the degree. Subsequently I wrote Wild Software Meta-systems, The Fragmentation of Being and the Path beyond the Void, Reflexive Autopoietic Systems Theory, and many other books and papers. See also http://works.bepress.com/kent_palmer. These major works are also available on scribd.com. List of all digital works is at http://archonic.net/kdp_ouvre_size04.pdf

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DOUBLE HELIX

SECTION I

DOUBLE HELIX STRUCTURE

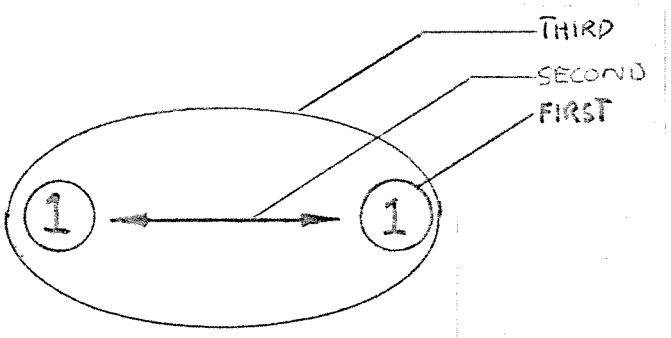
This is really a series of improvisations, the first of which takes as its task the formal derivation of a questionable flash of inspiration. The flash in question descended upon me around Christmas 1973 as I was engaged in writing my two MSc papers.[1] It entailed a specific configuration in which parts of the respective theories of G. H. Mead, A. Schutz and M. Heidegger might be stacked upon one another to form a single interlocking theory. Ever since then I have been engrossed in attemtping to understand the significance of the interconnections of these theories for the theories themselves, and to understand the structure and the interconnections. This section will concentrate upon the elucidation of the structure itself and the next will discuss the implications of the structure for the theories it originally embraced. Tentatively I might call the object of discourse here the M.S.H. triune series. It basically involves stacking the major elements of G. H. Mead's "primitive situation",[2] Schutz's "theory of relevance",[3] and Heidegger's threesome -Verstehen, Rede Befindlichkeit -[4] on top of each other, and attempting to understand them in terms of descriptions from different logical levels of the same basic phenomena. In this paper I won't attempt to defend my arbitrary linking of the theories of these three gentlemen, but primarily I will be attempting to understand the formal generation of the triune series which emerged from this arbitrary linking as such. As a means of approach to the definition and explanation of the triune series we will first have to dispense with the problem of how it is possible to generate a genuinely unitary triad from a threefold categorical system.

Wilden[5] presents us with a good starting point when he relates C. S. Peirce's categories to those of J. Lacan. This comparison may be amplified by adding the consideration of a similar categorical system propounded by F. de Saussure,[6] J. Monod,[7] and P. Munz.[8] It will be seen that by folding these successive attempts to develop the same basic theoretical perspective over on top of one another, that what emerges is a highly powerful theoretical tool.

C. S. Peirce's categories of Firstness, Secondness, the Thirdness are developed in such a way as to make clear the path we want to follow. That is he develops these categories not only as an epistemology but also as a semiotic. This corresponds closely with the distinction set as a problem in paragraph one above, because Peirce sees the three elements involved not only in categorical relation to one another but also in a unitary relation. Unfortunately Peirce doesn't specify how he was able to make, logically, this critical transition.

Briefly,[9] Firstness is pure sensation who's appearance to the "lonely phenomenological pragmaticist"[10] cannot be determined with any specificity and only exists as a probability or feeling. Secondness is a fact which is evidenced in the struggle for existence between two points (firsts) of given data. Thirdness is a mediation what is First and what is Second (or last), and is known as a law or relation. We might represent the relationships between these three categories in the following manner.

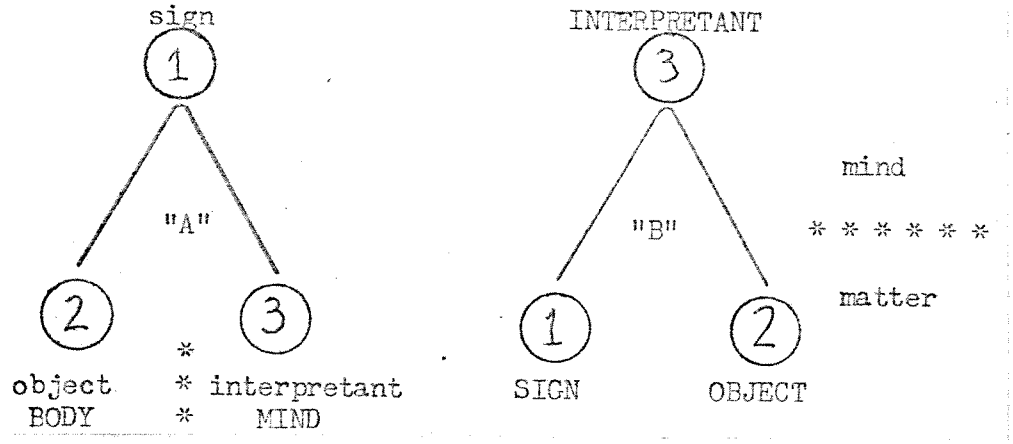
FIGURE I



We may look at the categoreis in terms of the order of their logical presentation (order of complexity where the simplest is presented first), or in terms of their interrelation where thirdness being a mediation is necessarily seen as poised between First and Second. However, either way what we are in essence describing is pictured most fully in Figure 1 . Originally there are only a myriad ~~in~~ of related points. From this emerges important oppositions between specific points and through the working out of these oppositions the points define themselves in terms of one another. Finally we look for the origin of these oppositions and find at their core an essential mediation, or link, or identity which is the underlying basis of any superficial opposition.

Peirce's categoreis, then, are primarily about the makeup of dichotomies.[11] Peirce is not satisfied with the description of dichotomies and wants to stretch his categories to describe trichotomies as well. To do this, what is essentially needed is a reification of the concept of thirdness forgetting it is a mere relationship and treating it as a thing of some sort. Peirce most obviously does exactly that in his semiotic theory. Signs (representamen) are in this theory seen as mediators between Mind and Matter or more specifically between thoughts (meaning) (interpretant) and objects in the world. However, since signs are objects too, we might also see the interpretant (thought) as mediating between two objects. Either way Thirdness is no longer merely a relationship but has been reified[12] into a thing by its identification with the mind. It is now a specific thought.

FIGURE 2



On the whole this semiotic is better than Saussure's inasmuch as it allows one to make the distinction between a sign and the object which that sign indicates in the world. The simple dualism of Saussure's signifier/signified is adequate for describing language as a system unrelated to any world, but it cannot handle the fact that words and meanings do in fact refer to events which occur outside language itself. Now, what is important to us here is the fact that Peirce comes up with a mediated triangular relationship in which a shift is indicated distinguishing the generation of the triad from its second order (or hybrid) mediation.[13] This is a point upon which this paper will dwell. Mediated triangular relationships, it will be discovered, possess an unexpected theoretical importance and the difference between the two types of mediation pictured in Figure 2 is crucial. Unfortunately Peirce, though he used these two forms of mediation as a descriptive tool in the application of triads to philosophical and linguistic problems, was more interested in classification and categorization than in indicating in any precise way the derivation of the tools which he used for that purpose. Thus we are left to descern for ourselves how he was able to transform his

three category description of dichotomies into a system of mediated triads. The usefulness he saw in categorization for its own sake is beyond my comprehension. What possible use could a classification system for signs with 59,049 divisions be to anyone.[14] The horrendous job of defining just what fits into each of those categories was too much for Peirce himself.[15] The real import of Peirce's semiotic then is not the categories he generates themselves, but the method of generation. We must understand precisely what he means in saying, "If you take any ordinary triadic relation, you will always find a mental element in it".[16] We are concerned with precisely where this mental element comes from and what it is. Peirce's semiotic is undermined by an underlying mind/body dichotomy which forms the implicit foundation of his philosophical perspective. These two problems must be rigorously separated from one another. Peirce saw by means of their confusion a justification of the mind/body dualism in the fact that triadic relations have a mental element. This mental element which is the necessary by-product of every triadic relation might better be called meaning, perhaps. In another context Peirce says bluntly, " . . . every genuine triadic relation involves meaning, as (conversely) meaning is obviously a triadic relation".[17]

Wilden draws a simple comparison between Peirce's system and J. Lacan's structuralist psychoanalytic categories of the Real, the Symbolic, and the Imaginary. The Real, "contains everything which is real to the individual, not only in his perceptions of the world but also in his internal thoughts and emotions as they are experienced. It is a subjective and collective reality which may or may not correspond to 'common sense' . . . (objective)

. . . reality. Elements of the Real are distinguishable by differences . . . everything which is Real, but not real (existent) is either symbolic or Imaginary".[18] "The Symbolic . . . is born out of an exchange between subjects. It is the set of elements which are given a meaning which goes beyond the physical nature of the object, gesture or word exchanged. They are given meaning by distinctive features which define them as units . . . . and by the context within which the exchange occurs."[19] The Imaginary is the last category and it is the realm of, "pairs of mutually exclusive terms, that is, pairs of binary oppositions".[20] Simply the correspondence is as follows:

FIGURE 3

	PEIRCE	LACAN
(Struggle, Fact, Existence)	SECOND	Imaginary (digital code: opposition)
(Mediation, Law)	THIRD	Symbolic (analogue code: distinction)
(Feeling, Probability)	FIRST	Real (information base: difference)

Notice, what is struggle and fact for Peirce is merely Imaginary strife for Lacan, and what on the other hand is merely feelings and probabilities for Peirce is the Real for Lacan. All the while both Peirce and Lacan's mediating categories are identical; that is without differing connotation. We can almost see Peirce and Lacan standing at opposite points of view looking at the same basic set of categories attempting to destroy each other's illusions as to what is real and what isn't. What is uncertain for one is certain for the other and vice versa, but always the structure remains the same and for both the symbolic third is the unquestioned central pillar. Peirce and Lacans' mutually exclusive viewpoints on the same system is a

theoretical opposition similar to that I've described before in relation to phenomenology with its solipcist and materialist (intersubjectivist) brands.[21] In this case the system upon which there are two mutually exclusive points of view is an explanation of shy just that should be so. Thus Peirce and Lacan are taking up opposite positions in an Imaginary (Second) dualism. According to Wilden's information theory interpretation of Lacan this has come about because both have digitalized the system that Figure 3 refers to. They have transformed the general referential system into categories of First - Real, Second - Imaginary, and Third - Symbolic; and through that digitalization have caused an Imaginary (second) oppositions to emerge. If, however, they had not each in their own way digitalized the system it would have remained just a system of exchange or mediation on the Symbolic (third) level. In that case it would have been impossible to describe the system in any meaningful way whatsoever. It is an essential truth that without Imaginary coordinate matrices it is impossible to describe any exchange system. On the other hand once one has brought into use Imaginary matrices one has moved outside the system one wants to describe and one is very likely to get lost in the Imaginary and lose sight of the Symbolic realm one originally intended to describe.[22] At any rate, since mediation is what this paper is all about this opposition of viewpoints is an essential theme to be brought out. It is, of course, best not to get lost in Imaginary or onesided descriptions especially when describing mediation itself.

All in all, though, the Lacan formulation only allows us to rename Peirce's original categorization and beyond that only to escape the minor pitall of Imaginary descriptions of it. Lacan's categories don't really tell

us anything further to help us understand the basic triadic relationship more fully. To help us here I suggest another more fruitful comparison with F. de Saussure's distinction between Dichotomy and Synchrony. Saussure uses this distinction as a basic tool for understanding the development of language. For him it works chiefly to allow him to discount the causal properties of change in language. Above we have learned from Lacan to suspect any dichotomy of being Imaginary. Synchrony-Dichotomy is no different here and upon careful scrutiny this dichotomy reveals a structure very similar to the Peirce-Lacan trichotomous classification.

Saussure picks an arbitrary point in time and assumes that at that time a language as a <u>whole</u> is a unity in which each of its elements is defined exclusively by the arrangement of relationships between all elements in the system simultaneously with it.[23] Thus signs are diacritical and derive their meaning exclusively from their position in context - - - that is from the rest of the language system as used at that moment. He then defines change in language as merely a succession of these synthronic wholes. Change in language through time is totally fortuitous and occurs because of the completely arbitrary nature of the signifier/signified relationship. It occurs in three steps. First there is a functionally unitary Synchronic language. Then there occurs a change in one of its elements, because of the arbitrariness of the signifier/signified relation upon which language is based. Thirdly, the whole system, the language, must rearrange itself diacritically in relation to the one changed element. Then again one has a functionally unitary and systematic whole of Synchrony. We can see immediately that Saussure's description of change in three stages may be

likened to the Peirce-Lacan trichotomy as follows:

FIGURE 4

FIRST ----------	singular arbitrary diachronic facts ---------->	chance modification
SECOND ----------	synchronic facts diacritically significant in relation to others ---------->	adjustment of diacritical facts in relation to one another
THIRD----------	the latent unity of the synchronic system as a whole ---------->	regained functional unity of the whole

Now, I believe that this comparison yields much more than the simple Peirce-Lacan comparison of Wilden.[24] It does so by bringing the dimension of time into play which was totally absent in Peirce or Lacan. However, I must admit that it appears to me that time is taken into account only as a means of discounting it altogether. The synchronic-diachronic notion of language swallowing random change in successive gulps is merely a ruse to skirt a major problem with which Saussure's linguistic analysis cannot really cope. That problem is temporality. Merleau-Ponty tells us:

> "If the objective world is incapable of sustaining time, (as we somehow feel it to be in Saussure's description) it is not because it is in some way too narrow, and that we need to add to it a bit of the future. Past and future exist only too unmistakably in the world, they exist in the present, and what being itself lacks in order to be part of the temporal order, is not being of elsewhere, formerly, and tomorrow. The objective world is too much of a plenum for there to be time. Past and future withdraw of their own accord from being and moreover into subjectivity in search, not of some real support, but, on the contrary, of a possibility of not being which accords with their nature. If we separate the objective world from the finite perspectives which open upon it, and posit it in itself, we find everywhere in it only so many instances of 'now'. These in-

> stances of 'now', moreover, not being present to anybody, have no temporal character and could not occur in sequence. The definition of time which is implicit in the comparisons undertaken by common sense, and which might be formulated as "a succession of instances of 'now'" has not even the advantage of treating past and future as presents: it is inconsistant, since it destroys the very notion of 'now' and that of succession."[25]

This brings us right to the core of the matter. Saussure's synchronic 'nows' do not cope with time, they destroy it and we find in this destruction the very mechanism of objectification. We may then look again at the Peirce-Lacan-Saussure trichotomy and see the means of objectification of the world. It contains merely a system of devious distortions of an illusory nature by which we mask the world from ourselves. We can see that the Peirce-Lacan-Saussure trichotomy is merely another version of the circularly dialectical system described in my second MSc paper. In any such circularly dialectical system a world of absolute heterogeniety (Firstness) through struggle of oppositions (Secondness) is transformed into a world of unity (Thirdness) only to deteriorate again. It is this very dichotomy between the world viewed as unitary versus heterogenious which is Imaginary. This is the same dichotomy which generates the Empiricism versus Rationalism (Intellectualism) false debate upon which Merleau-Ponty is so outspoken.[26] Both of these objectifying points of view[27] are too extreme and the world, as the origin of all thought as it is lived, is poised between these two extremes. It is poised between these two extremes not as a synthesis, but as an origin of Ambiguity which is there prior to any extremes, which micht be synthesized.[28]

If the symbolic-Third is identified with pure unity on the one hand and the Real-First is the same as pure heterogeniety on the other then we are left with the Imaginary-Second as the mediator between these two ex-

tremes. The Imaginary is the category Lacan deprecates most. However, it is the very one which brings to our attention the absurd ambiguity of the mutually exclusive opposites or dichotomy. When we look again, though, we see that Lacan's system has gained some clarity from the comparison with Peirce and Saussure. Clearly, what is mediated by the ambiguous and Imaginary is a world of exchange versus a world without exchange . . . . a world of differences that make a difference versus a world of pure difference. Exchange versus no exchange is the same sort of Imaginary dichotomy as unity versus heterogeneous content.[29] It is always this sort of basic distinction which creates the Imaginary, by trying to make clear the ambiguous. The choice is always between A and not A. Think again --- it is precisely this generation of the Imaginary which distinguishes uniquely man and womankinds' speaking. It is precisely this which we wish to study and understand. The primary question is how does the Imaginary emerge from the origin which is on the hither[29a] side of all thought or speech. The same mechanism that leads theoreticians to assume Imaginary dichotomies as the premises of their theories must be the one on which speech itself is founded. Binary oppositions are the hallmark of culture as Levi-Straus might say. However, the precise relationship between these oppositions, speech, and meaning is far from clear.[30]

Just as Lacan's system is more sophisticated than Peirce's, J. Monod's[31] thoughts are an improvement on Saussure's structure of change. Monod's system most simply put is a means for the conversion of chance into necessity. It is the ability to account for teleology which makes this paradign so strong. It must be noted that this is the major failure of Saussure's model. Monod shows us that biological evolution is based upon two factors: invariant re-

production and pure (unstructured) chance. These two factors combine to cause what appears to us a teleological or purposeful development in nature that seems to contravene the laws of physics (eg enthropy). Note how much Invariance and Variance look like our old friends exchange/no exchange and unity/heterogeneity.[32]

How does Monod pull the teleological rabbit out of the hat of nature based upon variance/invariance? Easy! He uses a brand new idea of levels. Levels, that is, of unstructured chance[33] and invariance. Put simply it goes something like this. The sequence of the polipeptide chain is random, but it is reproduced invariably to give us the building blocks of the cell ----proteins.[34] Proteins are produced invariably through the handy work of DNA which not only carries the instructions for making proteins but also can reproduce itself invariably. That is invariably except for inevitable random error (chance) which is, when it occurs, passed on or reproduced invariably. Thus the initial system was a chance arrangement which was reproduced over and over to produce order.[35] Then whenever there is a mistake in this invariant reproduction, if that mistake is caused by a deformation of the DNA, that mistake is reproduced over and over to produce a new and contrasting order. These chance changes in the DNA message occur in random individuals of a given species mutating them. These individuals who represent errors in coding, are then submitted to the rigid requirements of the ecology of the environment, and if their error is not detrimental to the organism-environment system, then the individual may be admitted through the Teleonomic filter into the overall system. If on the other hand the system of errata-environment is an improvement in the negative enthropy[36] of the system then

that individual may be selected to multiply and create a new and higher level of order in the environmental system. In summary, what is detrimental to the existing order is destroyed, what has neither postive or negative impact on the ecology is allowed to proliferate, that which boosts the integration or compactness of the ecological system as a whole is picked out and actively fostered.

What this is then is a layering of chance and invariance at three successively more encompassing levels to produce a system which has a built-in teleology or purpose. Teleology or seeming purposefulness is created by the slight shifts toward higher order which are accepted through the Teleonomic filter. These slight shifts indicate the re-orientation of the whole system diacritically. The new orientation gives greater specificity to the telenomic filter and makes its requiements for acceptance more rigorous. The total system acting as its own teleonomic filter selects from a controlled and delimited pool of random variance those specific variations which will cause the system to become more ordered. It does not simply accept into its body any random change as Saussure's model does. The elements in the system are then only diacritically related to elements which have passed through the teleonomic filter and then the range of diacritical relation is regulated by how close the given elements are to one another in terms of their logical types.

Now the way is prepared to show the correspondence between Monod's paradigm and those of Peirce, Lacan and Saussure.

FIGURE 5

	CHANCE pool of structured variation	TELEONOMIC FILTER levels of variance/invariance	NECESSITY Purposeful evolution
	{ what is contra the eco-system is destroyed }	{ what is neutral is allowed to proliferate }	{ what is neg-enthropic fostered }
Peirce Lacan Saussure	FIRST REAL DIACHRONY	SECOND IMAGINARY SYNCHRONIC relationships diacritical	THIRD SYMBOLIC LATENT UNITY of synchronic whole
Stages of Change	chance modification	adjustment	functional unity

Structured chance through the struggle of variance and invariance yields purposeful necessity. The system moves continually toward an increasingly negenthropic state. Monod's paradigm can easily be seen as a real improvement on our trichotomy. No longer does the system have to gulp totally arbitrary change down irrespective of where or what that change entails.[37] Change is now controlled. Its appearance is structured and influence is limited,[38] besides the fact that the eco-system picks and chooses from among its offerings just what building blocks will best fit into the gaps in the existing system. The next changes of the system are selected from a large pool of possible ones only a delimited number of which will be complimentary to the configuration of those previously chosen. Each successively neg-enthropic change adds to the specificity of the next selection through the mechanism of the diacritical readjustment of the whole eco-system. In this way there is produced what P. Munz[40] calls a typological

series as the eco-system shows increasing differentiation through time.

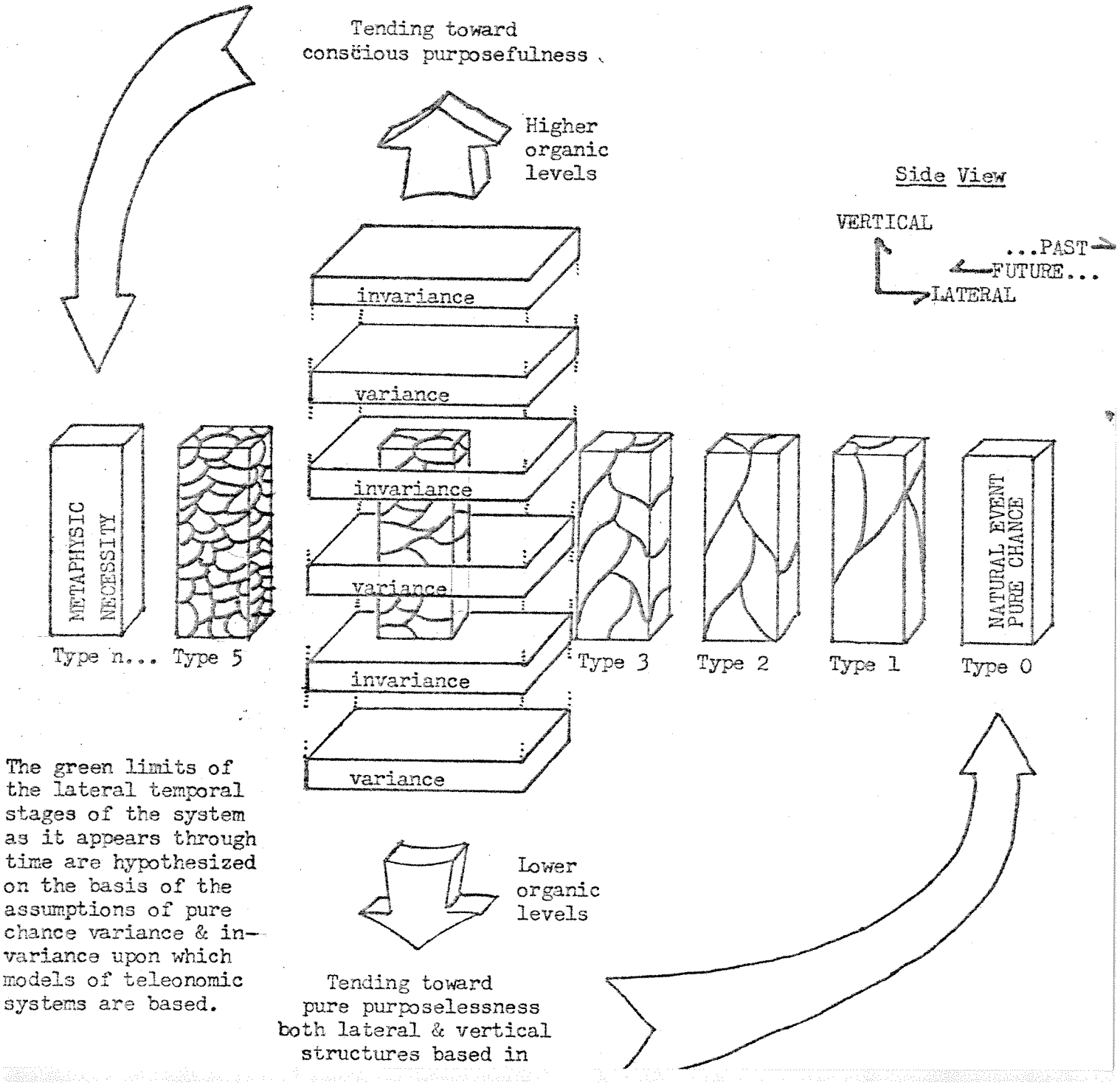
Describing such a series in relation to mythological systems Munz summarizes by saying . . . .

> "If the bottom (natural event) and the top layer (metaphysic) are thus added to the series, we can learn something about it's inherent meaning. We first of all watch the direction in which the first divergence from a report of a natural event to a myth takes place. Then we gauge, by following the stages of progressive specification, the sense of direction. And finally, we can discover how the whole series is topped off not by a further story but by a conceptual summing up of the whole series. In such a series we call the earlier story a type of a later story; or we can say that an earlier, less specified story prefigured the additional bottom and the additional top layer into consideration, becomes a typological system."[41]

Whether such a typological system is useful in understanding myths may be doubtful but there is no doubt that it is an accurate description of the effect of a telenomically filtered eco-system through time. The hypothetical natural event corresponds to the state of things just prior to the emergence of the eco-system at which time pure chance (unstructured) reigned supreme. The " . . . intersection of (any) two totally independent chains of events . ."[42] may serve as keynote for the establishment of an eco-system and thus the take-off point for "deflection"[43] into a typological series. The series once founded gains specific direction as the eco-system becomes more intricately ordered. Finally it can be seen that this 'direction' of the series points to a certain interpretation that seems to be the 'limit' of the series. For Munz this is a transition from myth into metaphysic, but for us the 'limit' of the series is its more and more clearly emerging necessity. One thing must be made clear, however, which Munz does not. That is the transition from Natural event by <u>deflection</u> to typological series and by <u>interpretation</u> to

metaphysic is not a movement of the series itself. The series is closed off from what we designate as its base and top. This is to say that there is a difference in logical type separating the series itself from its designated end-points. The series itself has no real beginning or end-points, it merely stretches on out of an anonymous past into the same sort of future.[44]

FIGURE 6



The green limits of the lateral temporal stages of the system as it appears through time are hypothesized on the basis of the assumptions of pure chance variance & invariance upon which models of teleonomic systems are based.

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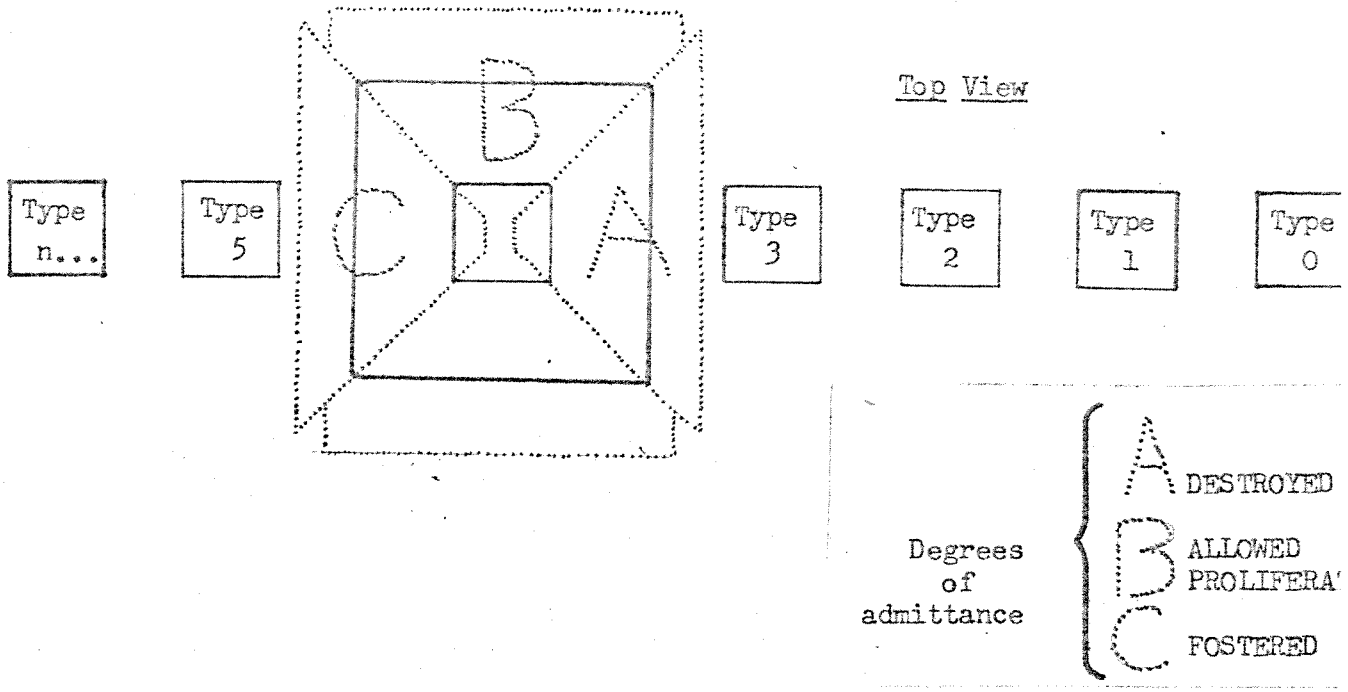
FIGURE 7



What is it which allows the Monod system to improve our idea of what the three categories are all about? It is obvious that Monod's system owes its vitality to the concept of different levels upon which the same duality (variance/invariance) plays itself out again and again. In this way it acts as a telenomic filter to yield Munz's typological series as the eco-system develops through time. What is important here is that in both lateral and vertical columns each stage upward or to the left is a commentary on those stages below or to the right. This is the theory of logical types.

46

Briefly, the theory of logical types was developed by B. Russell to deal with a plethora of paradoxes which were plaguing the development of exact logic around the turn of the century. It solved these problems but created others. In a theory of logical types it is . . .

> " ' . . .necessary to distinguish (1) terms (individuals), (2) classes (of individuals), (3) classes of classes (of individuals), and so on ad infinitum; we shall have to hold that no member of one set (type) is a member of any other set (type), and that x u requires that x should be of a set (type) of a degree lower by one than the set (type) to which u belongs. Thus x x will become a meaningless proposition; and in this way the contradiction is avoided' (Russel, 1903, 517). This account of the Simple Theory of Types is phrased in terms of individuals and classes, and devides into two parts. The first part posits an infinite hierachy of types: Type 0 consists of all individuals, Tyle 1 consists of all classes of individuals, and in general Type m+1 consists of all classes of entities of Type m. The second part imposes a condition of significance on formulas of the pattern s y: such a formula is significant if and only if the type of x is one lower than the type of y. It is clear that both parts are required to eliminate the Russel Paradox of the class of all classes that are not members of themselves. It should also be clear that all other paradoxes concerning classes are also eliminated."[47]

The obverse of the Russelian Theory of Logical types is the distinction between object-language and meta-language. This distinction is . . .

> " . . . generalized to a hierarchy of levels of language: language, meta-language, meta-meta-language, and so on, most extensively developed by Torsky (1956, 152-278), it had its historical root in an idea suggested Russel (1922, 23: 'These difficulties suggest to my mind some such possibility as this: that every language had, as Mr. Wittgenstein says, a structure concerning which, in the language, nothing can be said, but that there may be another language dealing with the structure of the first language, and having itself a new structure, and that to this hierarchy of languages there may be no limit.' An essential part of what we shall call the 'levels of language' doctrine is that semantic predicates, such as 'true', 'false', 'designates', etc., for the terms and formulas of a given language L cannot consistently be defined or introduced into that language L itself, but can occur only in the meta-language for L.
>
> The Kneales have argued that this need to distinguish among languages of different levels can be derived from the Simple Theory of Types. They consider the sentence
>
> 'Designates' designates designates,
>
> which attempt to state what 'designates' designates. Here we have an obvious violation of the Simple Theory of Types,

with a relation purporting to be one of its own relata (Kneale and Kneale, 1962, 665)."[48]

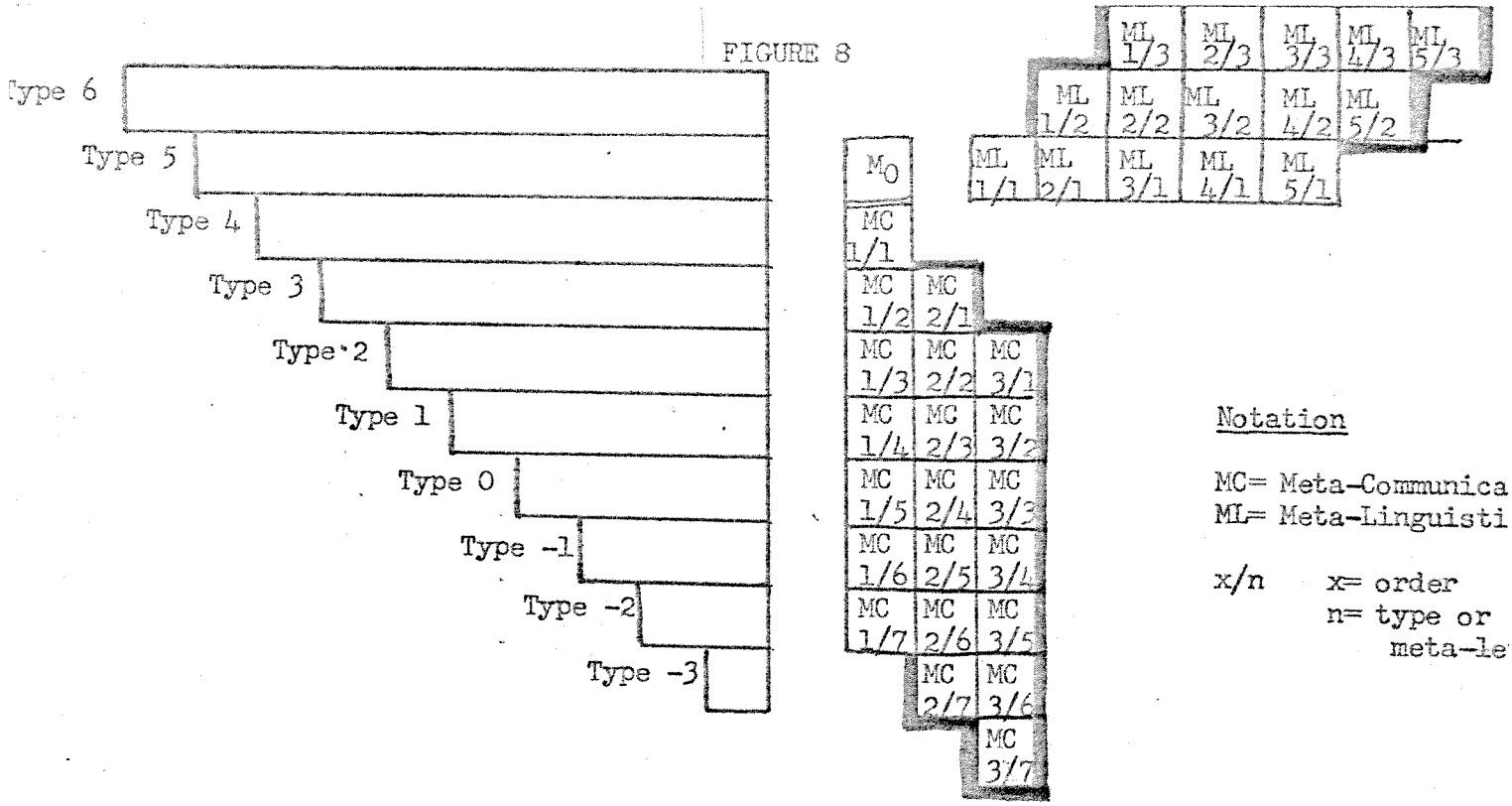
"The Kneales' improper sentence . . . can be expressed unabjectionably as Des_2 ('Des', Des_1)"[49] in logical functional notation using subscripts to show the meta-level of each term. Each meta-level may be considered a commentary on the level which it is above. Thus the definition (Des.) of 'Designates' ('Des') is a statement about or commentary on the meaning of a first order term. (Des_2) on the other hand is a connector which indicates a level of rules for transformations. Transformational rules are obviously of a higher order than mere commentaries on first order terms. From G. Bateson's article, 'The Logical Categories of Learning and Communication',[50] one may gather that terms of meta-level zero have no cognizance of themselves, terms of meta-level one are commentaries and imply the reflexivity that level zero lacks. Terms at meta-level two are rules which govern the inter/intra relations of levels zero and one. Meta-level three gives the rules for changes in the rules at meta-level two. Meta-levels four and beyond are merely hypothetical, when describing ecosystems and information systems.

The theory of types and the theory of meta-language and the obverse or one another because they basically look at the same phenomena in opposite ways. We may say, " . . . the logical typing of the infrastructure is higher than that of the super structure. The higher the level of logical type, the lower the level of organization".[51] In this terminology the superstructure is a meta-statement on the infrastructure. Thus levels of logical typing run in the opposite direction (in terms of notation) from meta levels. The higher the logical type the lower the meta-level and vice versa. However

not only the letter but the spirit of the notation is the opposite as well. Higher logical levels are less organized and this means that fewer distinctions are made in organizing elements. But less organization must be distinguished from simplicity or elegance of organizations. Very complex organizations may be organized in terms of simply stated structural principles. In fact as an organization becomes more intricate it is fundamentally necessary that the organizational principles be simpler and more compact. Thus in moving from higher logical types to lower, the specificity of definition of the units in relation to one another increases. Meta-language conveys the identities, transformations and organizational principles which control the complexities of the organization at lower logical levels.

Unfortunately, it is not all this simple. Through this simple comparison between meta-levels and logical types we have entered the frontiers of Symbolic Logic. Therefore as a stop gap measure I will present an abbreviated account of a ramified theory of meta-language. It is obvious that in the preceding there is a contradictory usage of the idea of meta-statement. One usage attributes recursive specifying as an inverse of logical typing. The other usage suggests that meta-languages define object languages in terms of reflective identities, transformational rules and rules governing change of rules. I would suggest that this ia a confusion which is common in the literature outside logic on the subject. This confusion arises because definitions which combine these two properties are usually used as a take-off point for the definition of meta-levels. G. Bateson in, "A Theory of Play anf Fantasy" [52], confronts this problem head on and it causes him to make a distinction between meta-communicative statements and meta linquistic ones. We shall use this distinction here to name our first and second usages respectively.

FIGURE 8



The first thing to notice is that types and meta-communicative levels work together to define the upper and lower limits of what ever system is being type-cast. Meta-level zero sets the upper limit of generality and type-level zero sets the lower limit of specificity for the smallest element. Obviously one could go on delimiting elements within elements forever and one might well always conceive of more and more general categories to place any finite system into.[53] So type-level zero and meta-level zero set the boundaries as to the inner and outer horizons of the system under consideration. Now both types and meta-levels are ramified but we shall leave aside the types and consider the ramifications of the meta-levels alone. Ramifications are the successive reduplication of sets of meta-levels into orders. Thus as

meta-communicative levels of higher and higher specification range away from meta-level zero as if they were reflected in a double mirror, they are re-duplicated in toto over and over again. Meta-level zero is a sort of pivot point and as such it seems not only as the origin of a meta-communicative series of meta-levels, but also for a meta-linquistic series of meta-levels. Without going into the interrelations between these series and their origin and to make a long story short as possible, let us say that meta-communicative meta-levels indicate increasing specificity wherein each level is a comment on the last one specified. The range of orders of it's ramification represents all the different interrelated sets of referents with which any one meta-level may be further specified. On the other hand meta-linguistic orders of ramification indicate the many possible different identities, rules and rules of change which may be used to describe any one linguistic statement. The meta-linguistic meta-levels then indicate the different statuses of such terms used in linguistic description wherein identities, rules, and rules of change must each be logically separated from one another. Hopefully this cursory presentation will serve well enough for the present study.

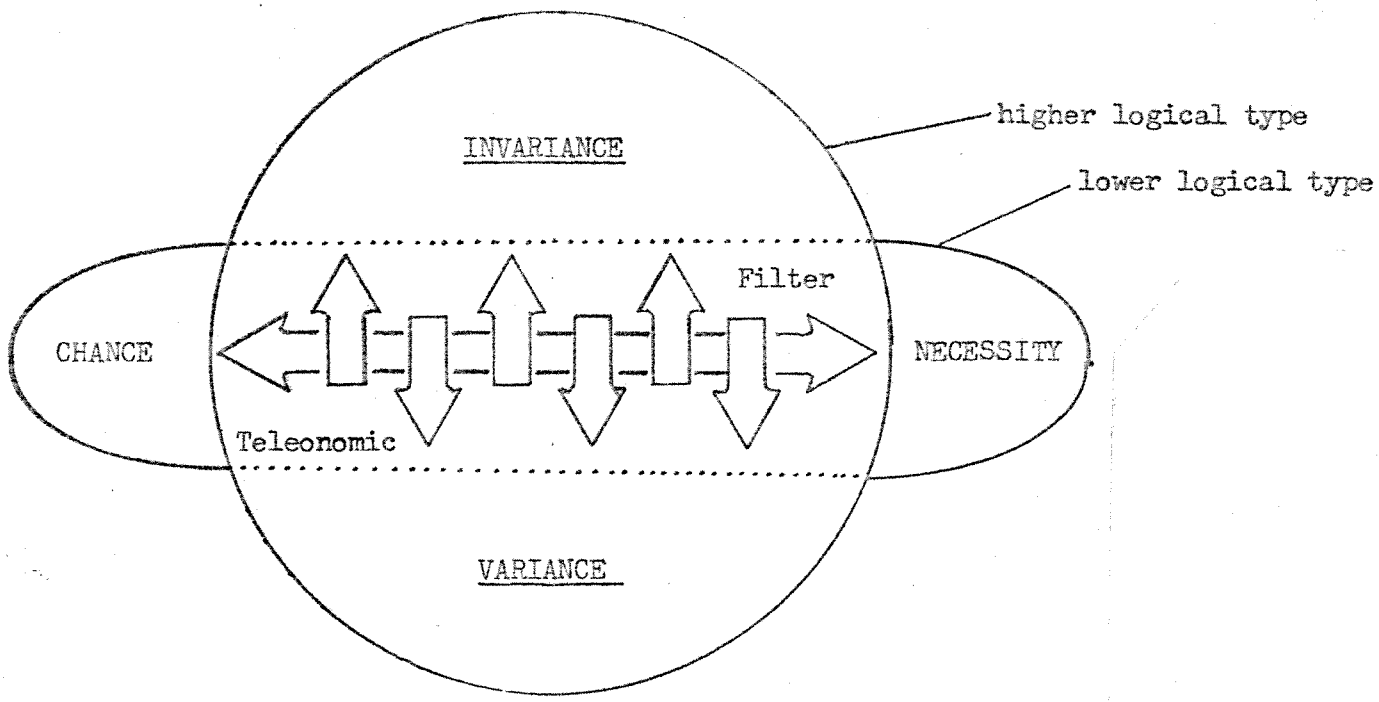
And finally . . . .

> "The only points I wish to make here are (1) that the transcendence of any paradox or double bind in logic or in life, involves some form of meta-communication, and (2) that the transcendence itself engenders paradox at the meta-communicative level - or at the level of the next higher logical type. In other words, Russel's theory of logical types, Carnap's levels of language, and the double-bind theory of schizophrenia are all paradoxical in themselves. It is easy to see why. On the one hand all such theories correspond to the necessity of digitalizing analogue continums by introducing discrete boundaries into the non-discrete. On the other, in logic and in language they involve the use

> of 'not'. Not itself is a meta-communicative boundary essential to the 'rule about identity' which is the sole sufficient and and necessary condition of any digital logic. In other words, boundaries are the condition of distinguishing the elements of a continum from the continum itself. 'Not' is such a boundary. It is the question of boundaries between logical types that generates the limiting paradox of the Russelian theory, which was designed to solve the antinonies involved in defining class membership, ie., boundaries.
> . . . (There is an intrinsic) impossibility of ultimately transcending paradox in human communication."[54]

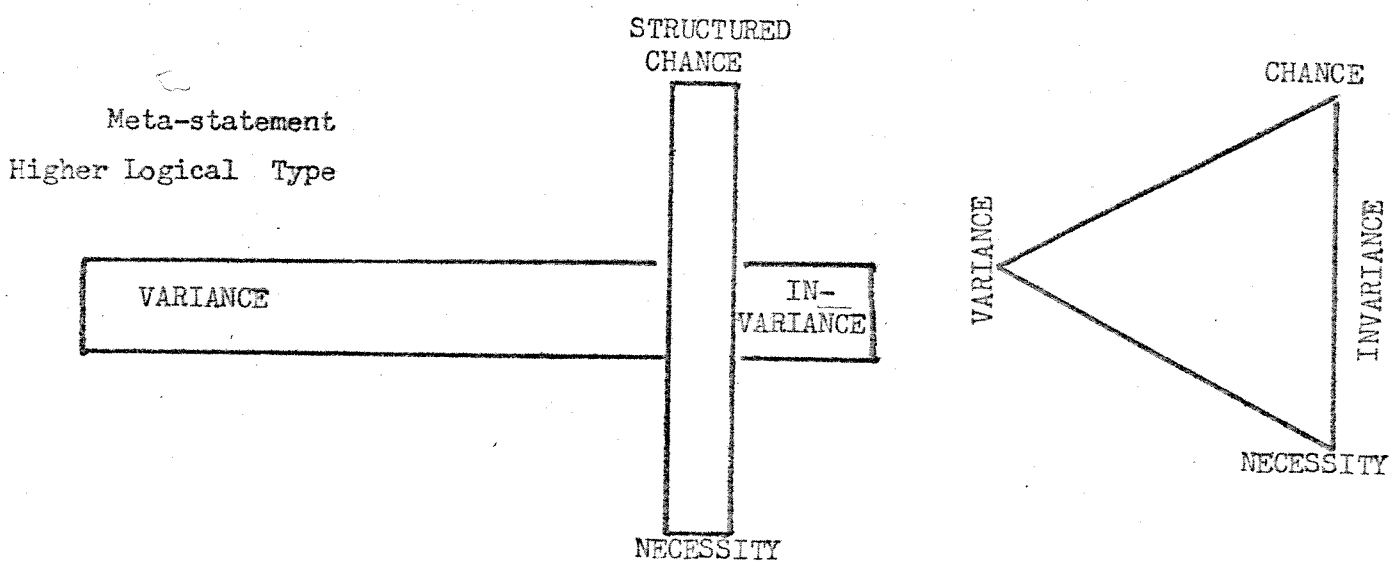
It is now possible to notice that the levels of logical typing express themselves in the very setting forth of Monod's three categoreis: Chance, Teleonomic Filter, and Necessity. The primary distinction variance/invariance is of a higher logical type than the more sophisticated categories of Chance and Necessity which derive from thier layering. It is through this layering of variance/invariance that they become a teleonomic filter. Acting as a filter they give rise to the more stable categories: Pool of chance mutations and Necessity or evolutionary purpose. Thus variance/invariance as a filter comes to mediate the relation between Chance and Necessity.

FIGURE 9



Chance and Necessity might be understood as a meta-statement about the more general dichotomy of variance/invariance. It can easily be seen, though, that both Chance and Necessity are forms of invariance. They are restrictions on total unmitigated variance or unstructured chance. Necessity restricts variance for only variance which accords with the higher ordering of the system is fostered. Structured Chance is a form of invariance because it restricts mutation to a confined pool outside the system proper which is carefully policed by the system. If this is so then we may begin to look at these three categoreis in terms of a triangular relationship involving two dichotomies related through a step up or down in logical type.

FIGURE 10

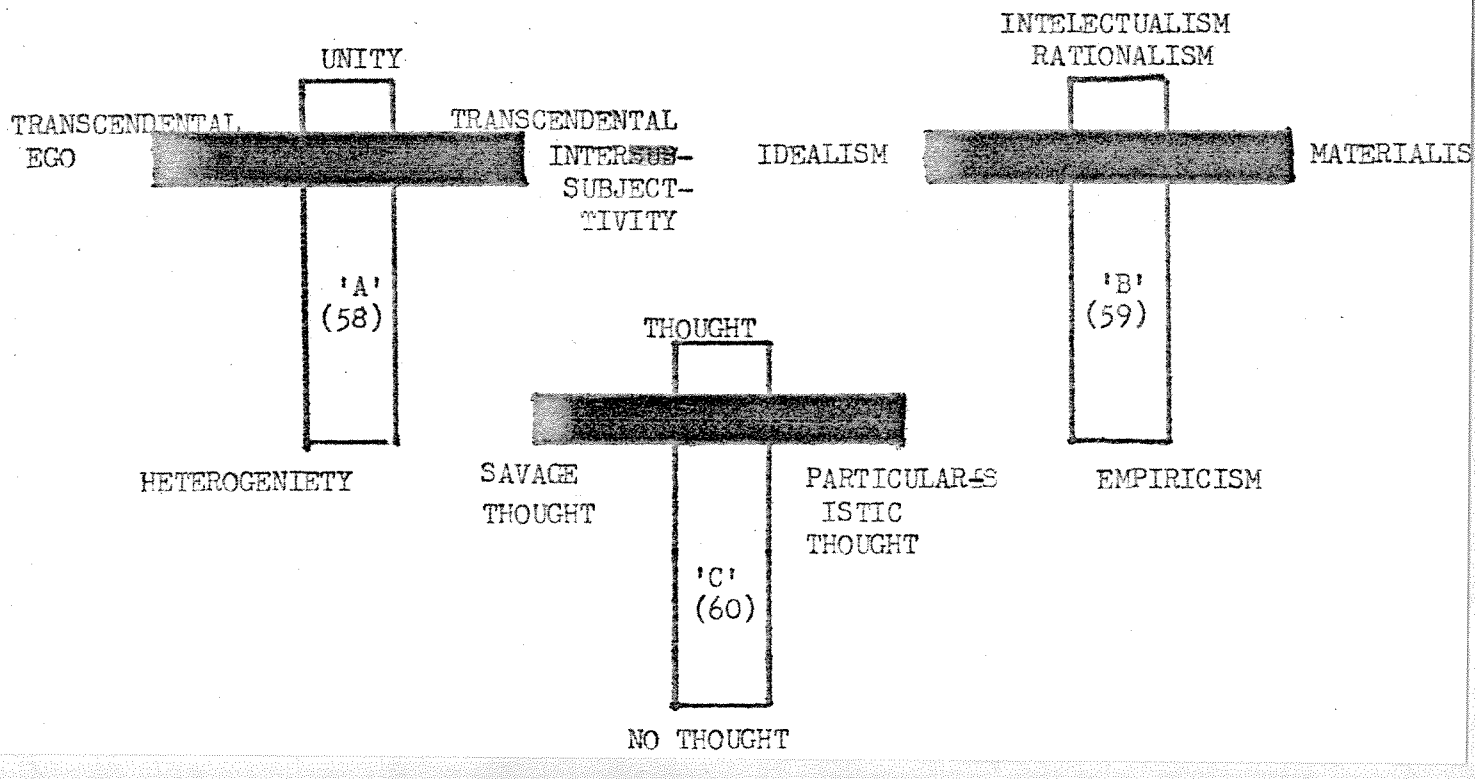


You will notice that the term 'teleonomic filter' has disappeared.[55] It is only needed if one wishes to express the entire system at the same level of logical typing. This is a mistake because it hides the structure of the system from view. It is convenient only if one is obsessed with categorical systems, but any categorical system is dangerous theoretically if one does not know the higher level dichotomy which is its foundation. This is in fact the problem with the categorical systems of Peirce, Lacan, and Saussure. It may be stated as a general principle that theoretical constructs of the same logical type can only describe Dyadic relationships when they alone are used.

I propose that all triangular relationships have this form: they are constructed out of two dichotomies one of which is a meta-statement concerning the other.[56] The meta dichotomy is derived from the higher logical type by taking one of the poles of that higher type and polarizing (dichotomizing) it again. Several triangular relations of this general sort can be pointed to.

[57]

FIGURE 11



It doesn't just end there either, but many logical levels may be stacked on one another to form a structure of interlocking triangular relationships. Between each two levels directly adjacent to one another a triangular relation holds between higher type and meta-level. It is important though that each of these triangular relations belong to the same progression of meta dichotomies. That is because the triangular relations are interlocking not just that anything can be thrown into the logical progression. The meta dichotomies must be deductible from the higher types.

61

FIGURE 12

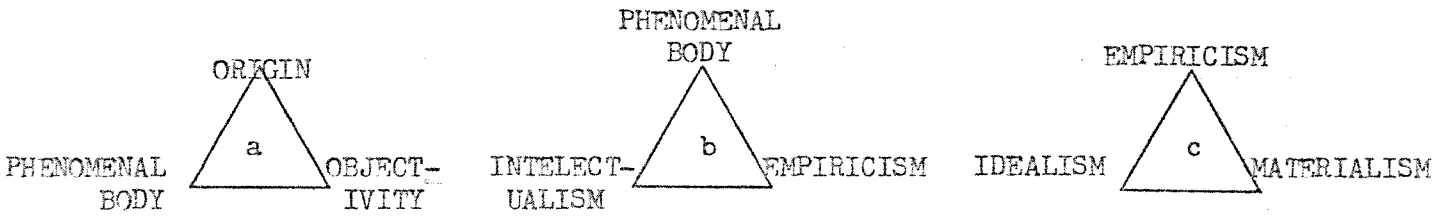
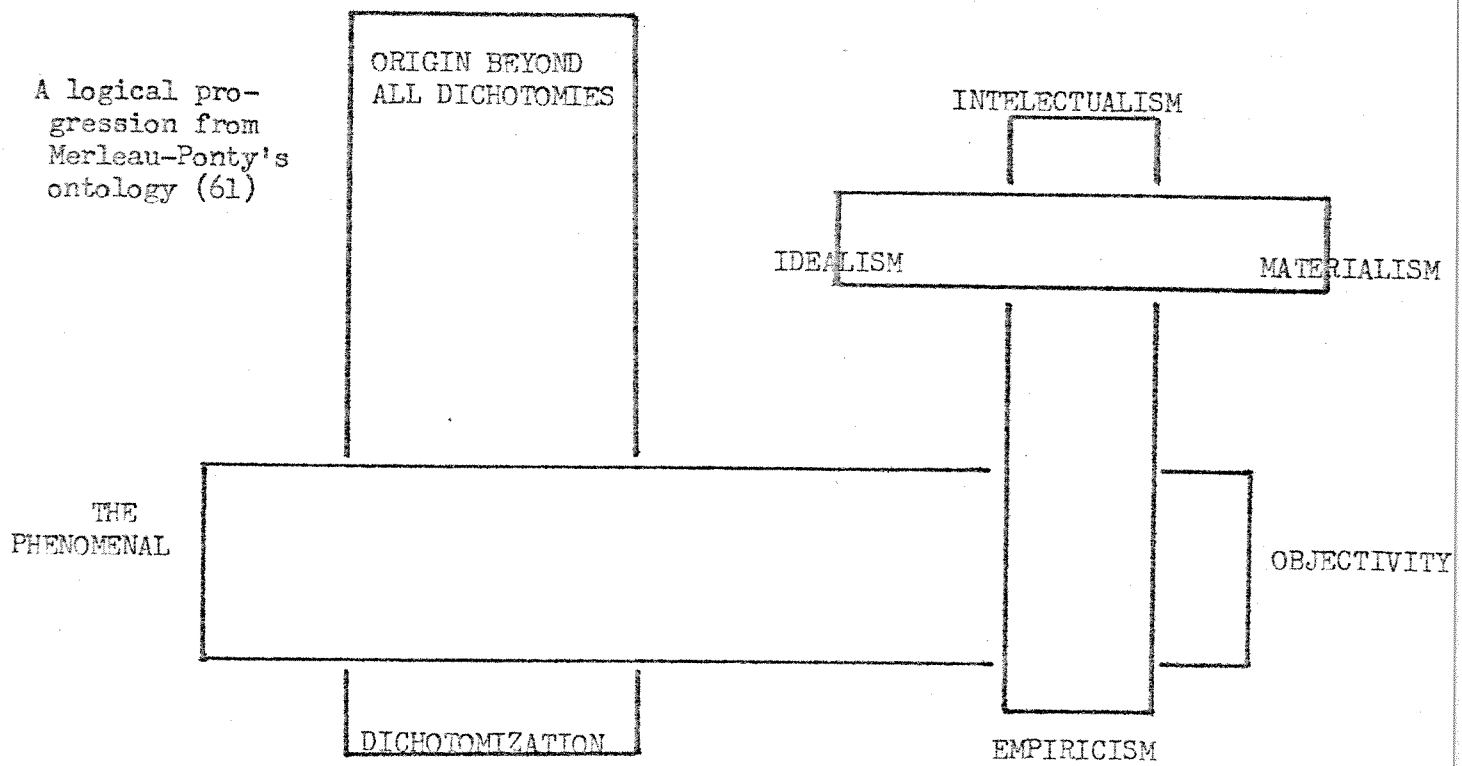


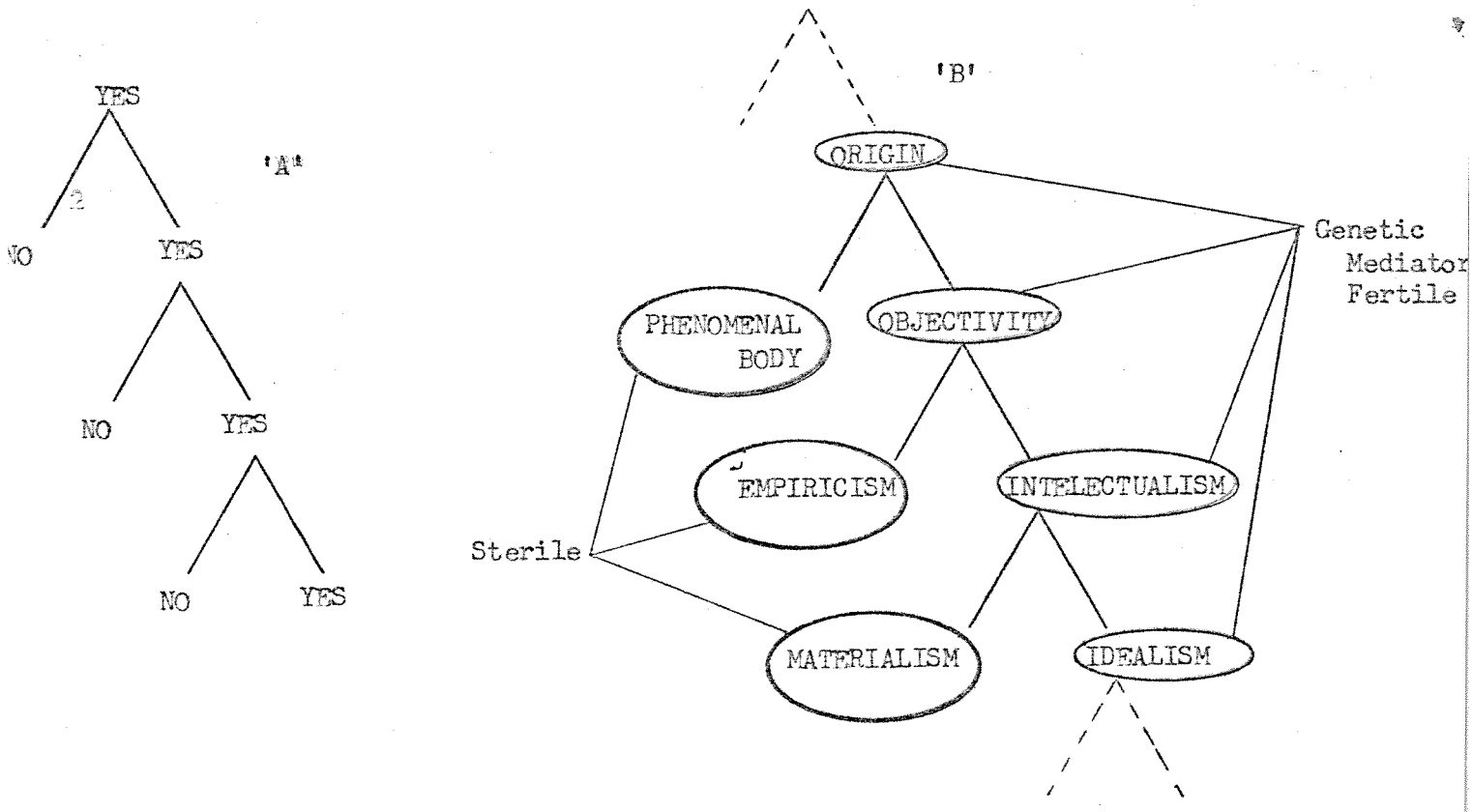
FIGURE 13



Within these triangular relations derived from the progression of meta dichotomies a curious phenomena emerges which it is essential to explain. Two sorts of mediation arise! The first sort of mediation derives from the genesis of the triangles out of the progression itself. Then there is also a hybrid mediation which appears in the Levi-Straus triangle, for example. In that triangle (Figure 11c) savage thought (or common sense) mediates between particularistic thought and no thought.

The genetic mediation is easy to account for as it is merely where the term of higher logical type mediates between the two lower ones. This mediation derives from the fact that the meta progression is nothing more than a progressive binary bisection which requires "division into two parts . . . one of which by definition could not contain the answer - - - and discarding the sterile part . . ." [62] in order to bisect the fertile part again.

FIGURE 14



Progressive binary bisection, then, is the origin of the progression of meta dichotomies. Within this progression triangular relations are derived by relating the throw away categorey of higher logical type to the two parts of the meta-level coming from the bisection of the fertile category.

FIGURE 15

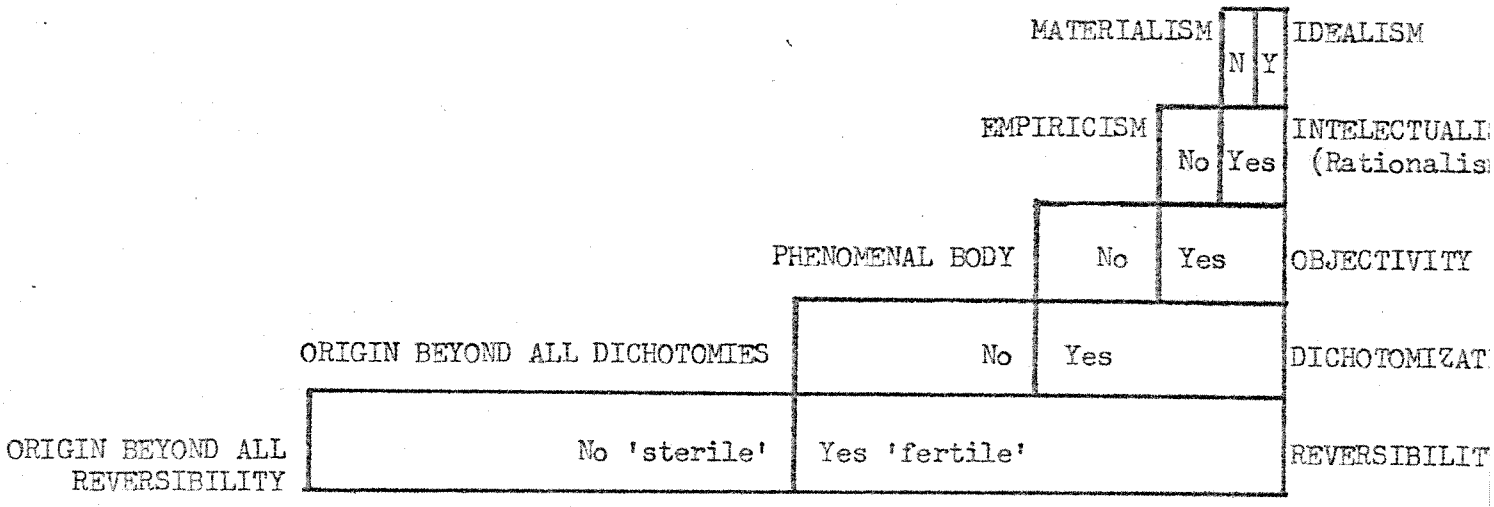
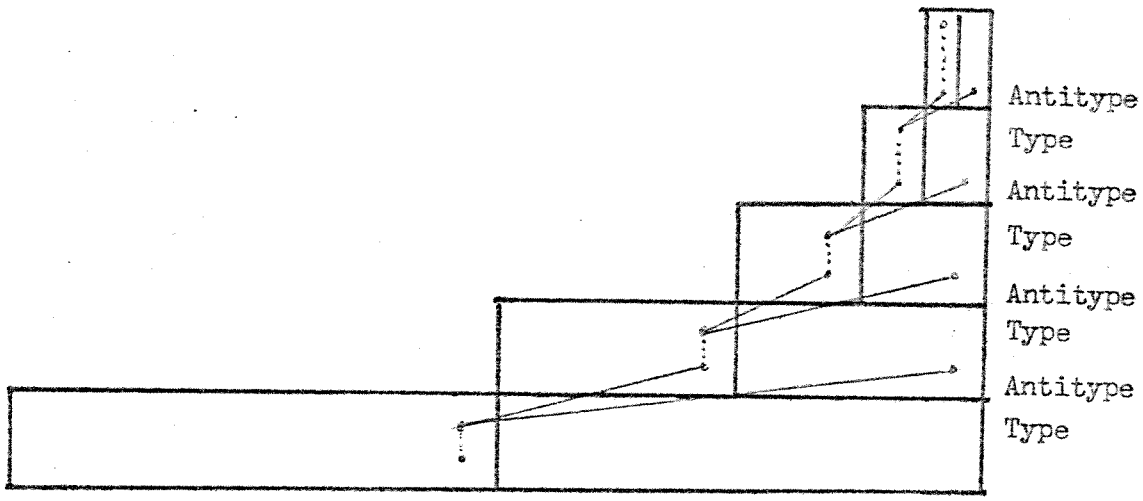


FIGURE 16

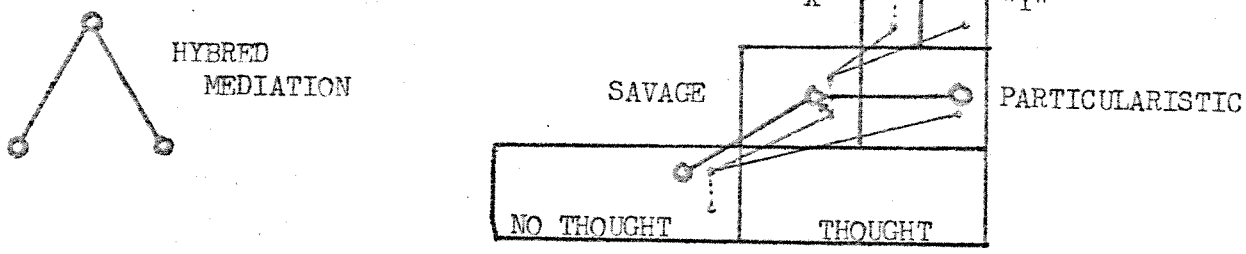


Here we see a simple displacement, where the mediating category is the throw away 'sterile' part of the type and it mediates between the 'fertile' and 'sterile' sections of the antitype. This is the genetic mediation which is only noticed if one looks at several levels of a series of logical type at one time. If one looks only at two levels, for example, it appears to be merely a dialectic. The 'yes' of the type appears to be the synthesis (or synopsis)[63] for the thesis (yes) and antithesis (no) of the antitype. The network of mediations is missed completely.

Now that genetic mediation has been explained satisfactorily, the next step is to account for the shift of emphasis that causes a hybrid form of mediation to emerge. For example, where savage thought mediates between 'No' thought and particularistic thought in R. Silverstone's analysis of Levi-Strauss.

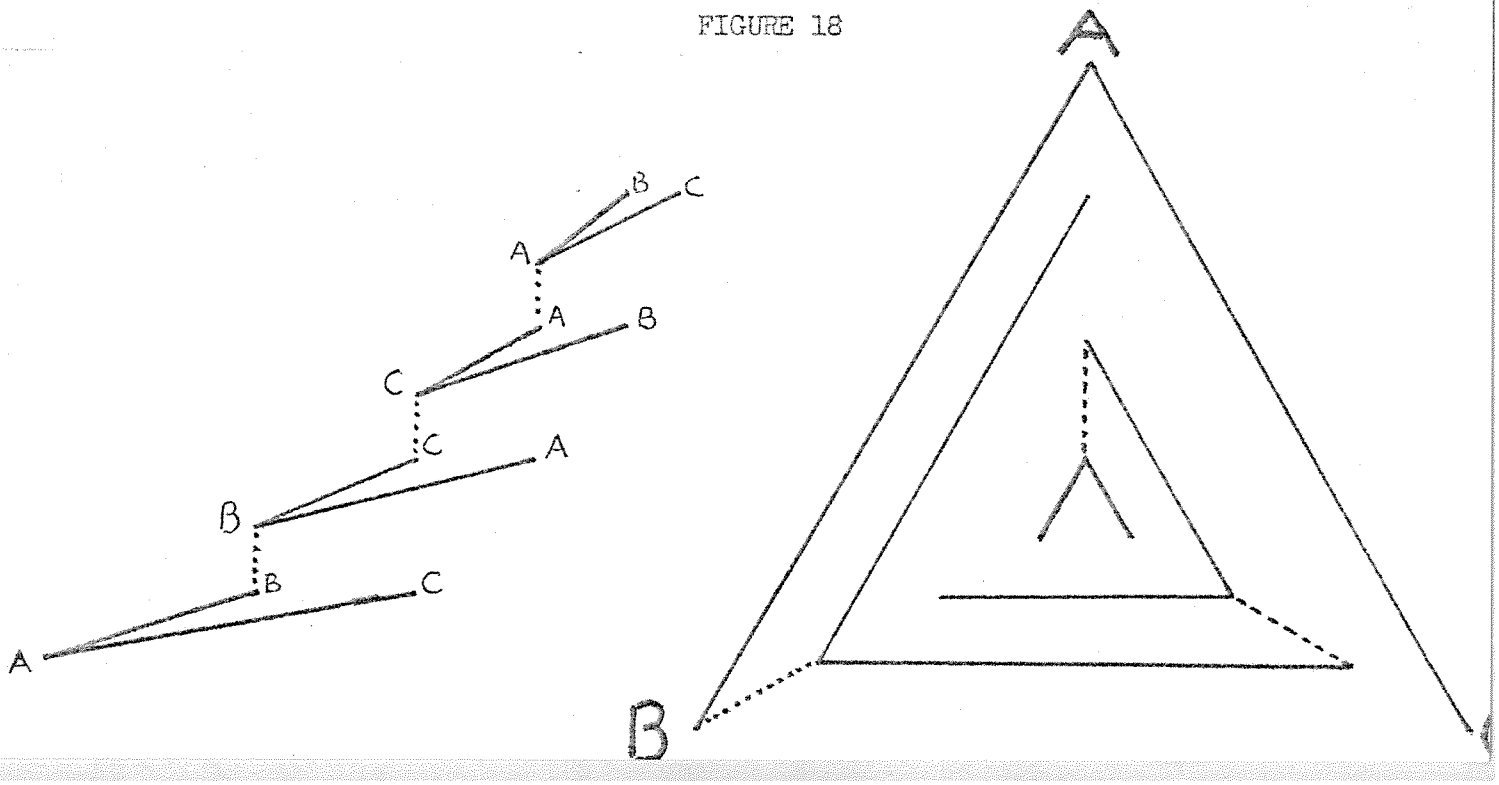
[64]

FIGURE 17



The hybrid mediation might also be called 'transtypical'. It is obvious that 'no thought' is the genetic mediator and that 'thought' is the synoptic origin of 'savage' and 'particularistic thought on the antitype level. At the next hypothetical stage or meta level, then, 'savage thought' would become the new genetic mediator. Genetic mediation shifts from 'no thought' to 'savage thought' as we ascend the meta levels. However, in addition, a hybrid mediation develops which 'looks' back down the staircase. This has the effect of binding the levels together. We notice, then, that at every meta-level excluding the topmost of any progression that the 'Sterile' element serves a double function of genetic and hybrid mediator binding the progression together. This we might see as a division of labor between the 'fertile' and 'sterile' segments of each level. The fertile element is the center for reproduction[65] and the sterile element does its bit by holding the generations together. This shift in mediators through the progression may be seen much better if we stack all the successive triangles derived from progressive bi-section on top of one another and orient them all in the same direction.

FIGURE 18



Notice how the mediation shifts around the stacked, reoriented triangles. "A" is genetic mediator at the lowest level and at the next level the mediation shifts to "B" which assumes the added function of hybrid mediator. In this way the mediation of a progression moves contra-clockwise around as it ascends.

Now, the necessity of the next step in the development of the argument here[66] is a bit more difficult to explain. This is because that necessity derives not from the formal description itself but from the use of what is being formally described here as a theoretical tool. In order to get over this hump we will refer to what G. Bateson has to say about Hierarchies.

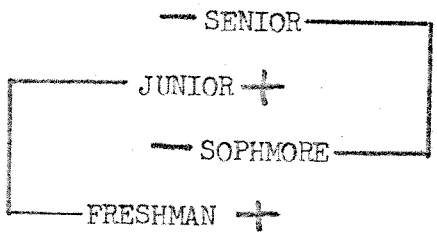
> "I have remarked . . . that in hierarchies of logical typing there is often some sort of change of sign at each level, when the levels are related to each other in such a way as to create a self corrective system. This appears in a simple diagramatic form in the initiatory hierarchy which I studied in a New Guinea tribe. The iniatiators are the natural enemies of the novices, because it is their task to bully the novices into shape. The men who initiated the present initiators now have a role of criticizing what is now being done in the initiation ceremonies and this makes them natural allies of the present novices. And so on. Something of the same sort also occurs in American college fraternities, where juniors tend to be allied with freshmen and seniors with sophmores.
>
> "This gives us a view of the world which is still almost unexplored. But some of its complexities may be suggested by a very crude and imperfect analogy. I think that the functioning of such hierarchies may be compared with the business of trying to back a truck to which one or more trailors are attached. Each segmentation of such a system denotes a reversal of sign, and each added segment denotes a drastic decrease in the amount of control that can be exerted by the driver of the truck . . . If the trailor is in line or almost in line, with the truck, the control is easy, but as the angle between trailor and truck diminishes, a point is reached at which control results in jack-knifing of the system. When we consider the problem of controlling a second trailor, the threshold for jack-knifing is drastically reduced, and control becomes, therefore, almost negligible."

> "As I see it the world is made up of a very complex network (rather than chain) of entities which have this sort of relationship to each other, but with this difference, that many of the entities have their own supplies of energy and perhaps even their own ideas of where they would like to go."[67]

Here Bateson draws a distinction between self-corrective hierarchies and those which are not. Sefl-corrective hierarchies have the characteristic of a reversal of sign at each level. Such as in the Fraternities where hazing is kept <u>within reason</u> by the opposing attitudes toward it held by members in different stages of the hierarchy.

FIGURE 19

Fraternity Heirarchy



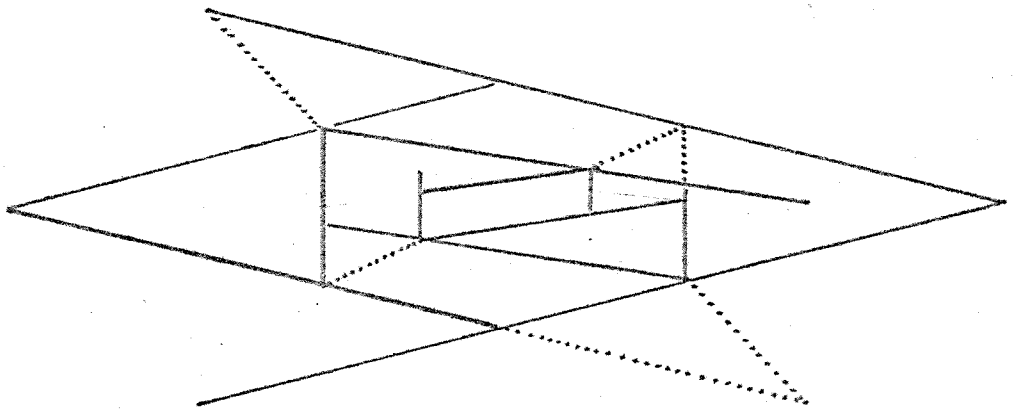
Non-Self corrective hierarchies do not have this additional dimension of sign reversal. The hierarchy of triadic relations that have been dealt with up to this point have been of this sort. Now we have the problem of how to add this new feature to the hierarchies that have already been described. The answer is relatively simple. Merely intertwine two such hierarchies; one of which balances the other by being of opposite sign. Then as R. B. Fuller says . . .

> "The inter-relationship between . . . two identical bisection systems might be described as a double helix or corkscrew movement (geodesic lines) . . . (it is) the most economical lines of inter-relationship between two independently moving events."[68]

It should be noted that the twist in the helix derives from the genetic-hybrid mediation series already described and the double helix itself is just the opposition at each level of two identical single helixs. So whenever there is a hierarchy which alternates signs (postive/negative) as one moves upward or downward in terms of logical typing then it is a self-correcting system involving two independently moving events.

A view of such a double helix would look something like the following in which larger triangles indicate higher logical type.

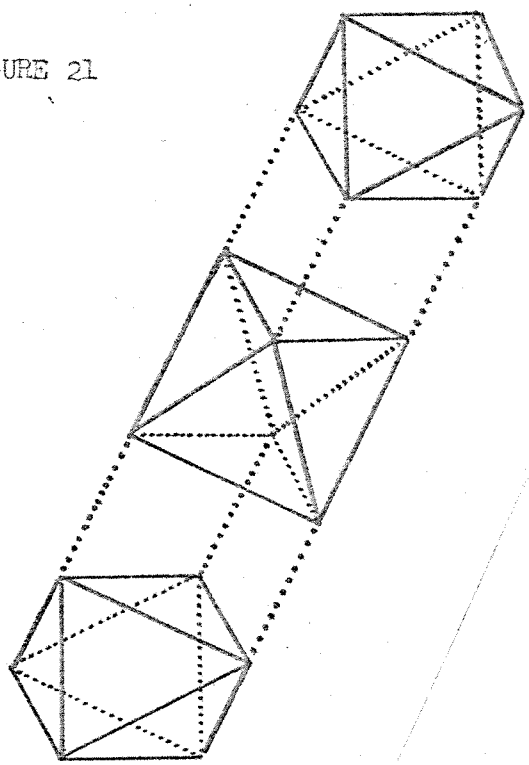
FIGURE 20



At each level the 'blue' helix is opposed by its negating opposite the 'orange' helix. These two helixes are identical. The change of sign consists in the 180 degree rotation of the isomorphic anti-helix. This is the formal derivation of the double helix form. Any double helix is essentially a stack of

regular octahedrons[69] each connected to the next at three verticles on opposite faces. A stack of five such octahedrons gives us a double helix each of whose single helixes turns a complete 360° as they twist from one end of the stack to the other. Such a series of five octahedrons containing helixes that make a 360° degree twist is properly called a 'segment'. Any number of segments may be stacked up to a double helix structure of any proscribed length.

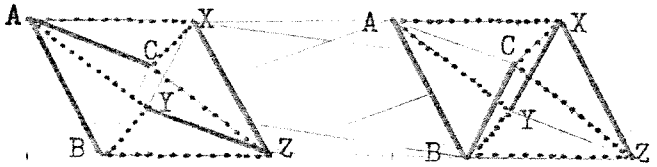
FIGURE 21



Now, the double helix itself may be seen as a self-generating dialectical progression in which no elements are ever lost. Take for example any octachedron in a double helix, its two faces that join it with the rest of the stack are opposite each other, parallel planes, and the triangles point in opposite directions. In this way they are antithetical and actually belong to different progressive bisections. Then again they are connected

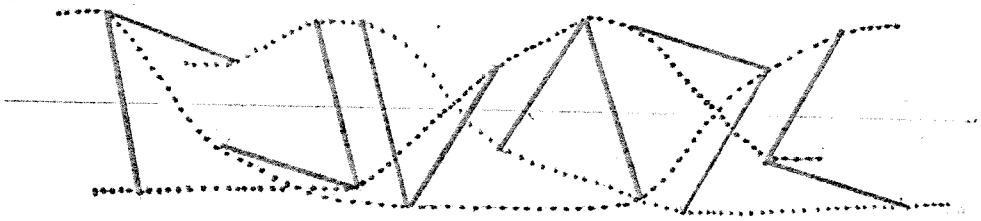
by the ocrahedal structures. Now, notice that in the movement from Thesis to Antithesis through the octahedral structure, that there occurs three simultaneous synthesis without the loss of any elements.

FIGURE 22



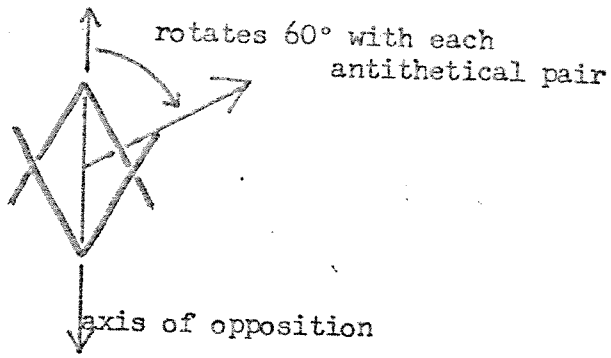
For example A synthesized with C yields (⇒) X; (syn. B⇒Z; B syn. A⇒Y.) This means, more precisely, that A and C taken as <u>sub</u>-thesis and <u>sub</u>-antithesis within the thesis face of the octahedron may be synthesized to yield X of the antithetical face of the octahedron. If the three possible such syntheses are carried out simultaneously a triangle at the next stage rotated 60°. The mediation of the rotated triangle is exactly opposite that of the thesis triangle A, B, C.

FIGURE 23



As one works down the double helix carrying out triple simultaneous syntheses in order to move from one octahedron interface to the next one finds that the helix is composed of pairs of antithetically mediated joining faces and that each pair are turned so that the axis of their opposition rotates 60^{o} from the axis of opposition of the last pair because of the genetic-hybrid mediation of each bisectional progression.

FIGURE 24



Well, this all probably sounds more like a geometry lesson than anything else. The significance of all this trigonometry is probably at this point difficult to grasp. Essentially, though this is an exercise in the mechanics of theory construction. The double helix form is essential to the description of any theory which use both dialectics and the theory of logical types. Perhaps the most useful aspect of this structure is the description of the mechanics of mediation which is now becoming a frequently used theoretical tool. The relationship between mediation, dialectics and logical types is of the utmost significance. The remaining sections of this paper will explore some of the uses of aspects of the double helix structure.

Section 2: Presentation of the M.S.H. triune series with corresponding critique emanating from the work of Merleau-Ponty.

Section 3: This will look at the implication of the incarnate triangular relation for the construction of a non-dualistically based semiotic theory employing some ideas of G. Bateson on meta-communication.

Section 4: An extension of G. Bateson's theory of 'play' into a theory of inter-subjective illusion and then into a basis for a theory of creativity.

Before moving on to the next section a further word must be said to tie things together concerning the relationship between J. Monod's theoretical scheme and the double helix. The theoretical sophistication of the latter over the former is incredible. Monod's system merely relates two planes of structuralization of differing logical type within one event. The whole structure was based upon variance/invariance dichotomy and the variance member of that dichotomy represented unstructured chance. Monod defines unstructured chance as the coming together of two unrelated sequences of events. This unstructured chance is the bedrock of the Monod system and, therefore, it is assumed. This means the Monod system cannot explain what happens when two unrelated events interact, but can in fact only predict what will occur with respect to one of them when these two events are held constantly alongside one another in synchrony for a designated period of time (eg. Chance and Necessity happens). On the other hand, the double helix structure can and does explain the sequence of <u>interaction</u> between two events that randomly intersect each others paths while being held along side one another. Thus in terms of Peirce's crude categorial conceptions,

Monod's system only accounts for first order phenomena, while the double helix paradigm accounts for second order phenomena (struggle). If this is so then the question arises as to an account of third order phenomena . . . that is the interaction of three events coming together at once. What the structure of such a three-way interaction, which could serve as the basis of explaining the interaction of all events in the Universe (of Discourse), is anybodys guess. The reason such a threefold structure would explain the interaction of all events is that the interaction of any higher number of events may be expressed in terms of three-way relationships. My guess is that the structure is provided again by the stacked octahedrons. One might notice that it is capable of providing a framework to support <u>just</u> three single helixes intertwining.

FOOTNOTES:

1. Titles of M. Sc. papers
   a. 'Phenomenological dualism and Schutz's dynamic paradigm' presented to Sociological Theory Seminar; L.S.E.; Lent Term
   b. 'Alienation as a Phenomenological Concept' presented to Sociology of Religion Seminar; L.S.E.; Lent Term

2. Mead, G. H.; Mind, Self, and Society; (Chicago & London: U. of Chicago Press 1934); ed. C. W. Morris; pg. 48

3. Schutz, A.; Reflections on the problem of Relevance; (

   For a good summary of Schutz's theory of Relevance see R. H. Grathoff; The Structure of Social Inconsistancies; (Hague: Nijhoff, 1970); pg. 19-27

4. Heidegger, M.; Being and Time; (N. Y. & Evanston: Harper & Rew,1962); tr. J. Macquarrie & E. Robinson

5. Wilden, A.; System and Structure; (London: Travistock, 1972); pg.265-268

6. Saussure, F. de; Course in General Linguistics; (Phil. Libr. Inc., 1959)

7. Monod, J.; Chance and necessity; (Glasgow: Wm Collins Sons, 1972); tr. A. Wainhouse

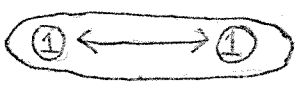
8. Munz, P.; When the Golden Bough Breaks; (London: R.K.P., 1973); LSE R/WA29337

9. note. I will sumarize Peirce's catagories without making specific references due to its simplicity and the fact Wilden sumarizes Peirce in making his comparison to Lacan.

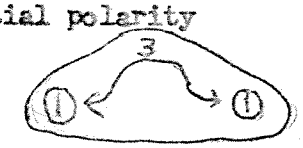
10. opcit. Wilden S.&S.; pg. 265. note. Peirce would object to his philosophy being called a pragmatism after going so far to make a point of changing it's name to pragmaticism in response to the perversion of his ideas by overly zealous followers, perhaps including Wm. James. Thus I have taken the liberty to correct Wilden's description of Peirce's philosophy.

11. Their origin, opposition, and unity. For another such description of dichotomies see A. J. Bahm; Polarity, dialectic, and Organicity (Springfield, Ill.: CC Thomas, 1970); KU B809.7.B25

12. It is very difficult to explain the effect of the identification of thirdness with the mind (in a mind/body dualism), but it goes something like the following. Thirdness is initially a term descriptive of the relation between polarities, perhaps signified by a double arrow.

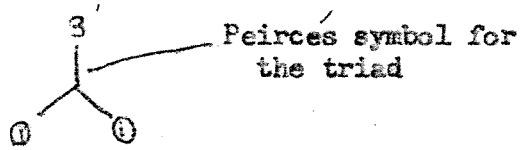


This mere relationship is, so to speak, pulled up and reified by an identification with MIND an entity transcending the body of the initial polarity



MIND / BODY

in this way Peirce makes the jump from the description of dyads to the positing of triads.



The justification for this jump is then seen in retrospect because the triads seem to have a difficult to define mental element which dyads just don't have. That is to say they produce 'meaning'. The identification of this mental element intrinsic to triads with the assumption of mind made to bridge the gap between dyads & triads is I believe Peirces most outstanding error in the development of his overall philosophy.

13. see distinction page between first order and second order (hybrid) mediation which is related to the two types of relations between categories pictured in Figure 1 A&B.

14. see Peirce, C. S.; Collected Papers; Vol. #8; 'To Lady Welby';pg. 220-246 (London; Oxford U. Press,1958)the number 59049 is taken from page 232.

15. He gives only tentative proposals in his letters to Lady Welby The whole process smacks of the initial defining of each of the 64 hexagrams in the I Ching. The system itself only suggests so much and from then on how things come out (what falls where) could only be determined by mysticism or chance. Peirce leaves the full elaboration to 'future explorers'. (Peirce, C.P., Vol. VIII, pg. 232)

Speaking of the I Ching, it is interesting to see Peirces own unintentional version. cf Peirce, C.P., Vol. V, pg. 251-262, paragraphs 311-323

To be sure how can we question. . . "All that springs from the 

---an emblem of fertility in comparison with which the holy phallus of religion's youth is a poor stick indeed."
(Peirce, C.P., Vol. IV, pg. 251, paragraph 310)

16. Peirce, C.S.; C.P.; Vol. VIII; pg. 225
Peirce also says earlier in the same letter, "Disagreeable as it is to attribute such meaning to numbers, and to a triad above all, it is as true as it is disagreeable"
(Peirce, C.P., Vol. VIII, pg. 221)
It is the attribution of 'meaning' to the triad 'above all' with which we are most concerned here.

17. Peirce, C.S.; C.P.; Vol. I; pg. 175; paragraph 345; (London:Oxford, 1931)

18. Wilden; S.&S.; pg. 274.

19. Wilden; S.&S.; pg. 275.

20. Wilden; S.&S.; pg. 275.

21. see my first M.Sc. paper (cf. footnote 1.)

22. The relationship between Imaginary & Symbolic is one of differing Logical Types and thus of a Meta-language to its base language.

23. It is interesting to note that standard game theory provides us with a model of the process of diacritical adjustment among elements in the synchronic whole. Game theory at its simplest describes a two element whole (two player game), but there is always the possibility of complicating things by adding any number of players. In game theory it has been shown that the moves of players, only when taken in sequence, allow diacritical adjustment to occur as the chosen options of each player in turn effect the choices of other players. This diacritical adjustment is related by N. Howard to a first order break down in the concept of rationality. This is equivilent to the idea that a synchronic-diachronic system cannot be teleological by it's very nature, because it is diacritical. cf. Howard, N.; Paradoxes of Rationality; (Cambridge, Mass. & London; MIT Press 1971) LSE R/WA20491

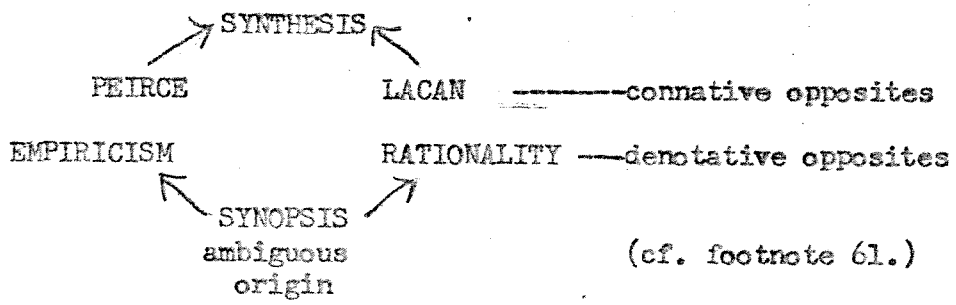
24. Even though we may say, ofcourse, that every comparison or contrast of this sort helps sharpen our intelectual tools.

25. Merleau-Ponty, M.; Phenomenology of Perception; (London: R.K.P., 1962) pg. 412

26. Merleau-Ponty; P.of P.

27. Empiricism vs Rationalism arise in exactly the same way as the Peirce—Lacan connative viewpoints come into being.

28.



(cf. footnote 61.)

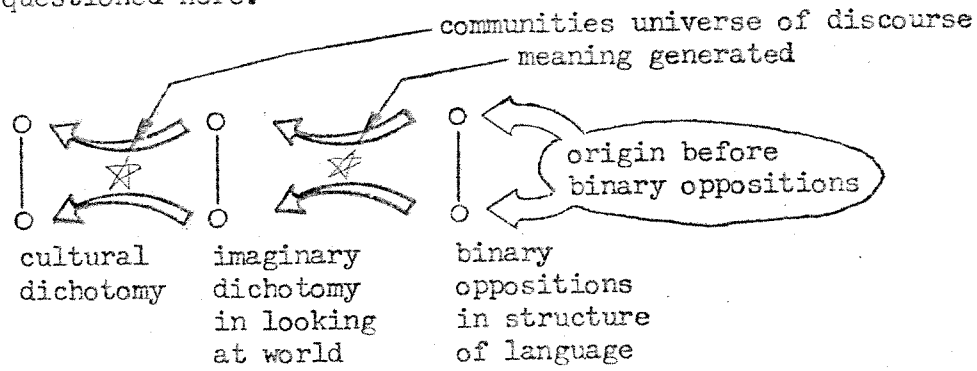
29. There is really no difference between

EXCHANGE vs NO EXCHANGE AND UNITY vs HETEROGENIETY

LACAN PEIRCE

Lacan's polarity is simply a more sophisticated version of the age old dichotomy that Peirce adopted. Lacan's polarity is just more 'sociological' version and can really be reduced to the philosophically more basic duality of Peirce. That is some sort of unity embracing the subjects engaged in exchange must be the foundation upon which that exchange takes place. If there is no such unity then there can be no exchange

30. The relationship between Imaginary dichotomies generated in describing things with language and the binary oppositions projected upon the world by persons speaking within a culture and the generation of meaning in the process, is what is being questioned here.



31. Monod; C.&.N

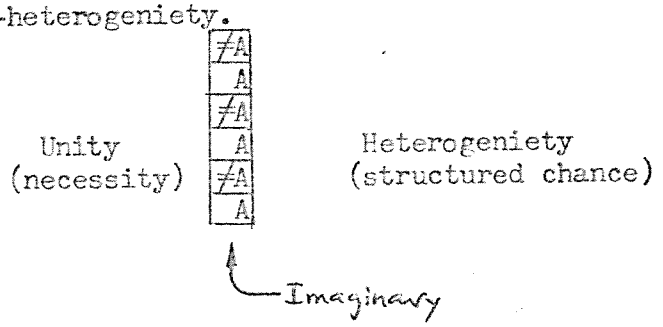
32. Actually the likeness is only on the surface.

variance	--	unity	
vs		vs	A
invariance	--	heterogeniety	

the real correspondence is between

structured chance	__	heterogeniety	
vs		vs	B
necessity	--	unity	

However the difference is a matter of logical types and is at any rate arguable. The question is, if correspondence 'B' is correct, then what dichotomy of a higher logical type underlies the unity--heterogeniety opposition. What ever it is it would be stacked in succesive levels to form something akin to the teleonomic filter, and this would correspond to the realm of the imaginary between unity--heterogeniety.



One suggestion for nomination to the positions of A vs not A might be "idenity vs non-idenity"; for what is unitary must have it's foundation in the principle of idenity binding it into a whole, single manifold. Where as obviously what is heterogenious has no identities operating between elements of the plenum. This would mean there is a close correspondence between the roles of idenity & invariance and their opposites. What is invariant is identical from temporal point to point. Thus the difference is wheather one intends to map the system on to objective time or space. This determines wheather one choses idenity or invariance as ones basic term.

35. Diachronic change in Saussures paradigm.

36. Neg-enthropy; cf Wilden; S&S; pg.

37. Caillois, R.; "Unity of Play: Diversity of Games"; DIOGENES; #19 Fall 1957; pg 92
Callois stresses the importance of games of chance. Monods model shows us that such games where one learns to structure change would be a first step in building any teleological system. It is interesting that he notes that adults are much more likely to play such games of chance than children This suggests an order of evolution in Callois categories of games.

+	1. Mimicry	imitation	) Personality
−	2. Ilinx	vertigo	
+	3. Agnon	competition	) Triumph
−	4. Alea	chance	

As to the place of chance in the building of teleonomic systems Caillois says, "Play is not only the area of 'limited and provisional perfection' It constitutes a kind of haven in which one is master of destiny. There, the player himself chooses his risks, which, since they are determined in advance, cannot exceed what he has exactly agreed to put into play. These conditions are valid chiefly in games of chance". Caillois, R.;Man and the Sacred; (Glencoe,Ill.: Free Press, 1959); pg. 159; LSE D/GN 451

38. cf Wilden; S&S; pg.

39. One gets the image of building a stone wall in a rocky country side. The shapes of the stones all ready fitted together dictate the shape sought in the next stone to be chosen. The more compact one wishes the wall; the more specific the dictates of the wall already constituted. The wall is its own teleonomic filter and the binary order the wall imposes on the landscape is obvious.

40. cf footnote #8.

33. Monod defines two types of chance in C&N. pg. 111

34. How polipeptide chains fold to make protines is ofcourse dictated by their chance arrangement, but they always fold in the most economical way which is the smallest bundle and this is invarient.

41. Munz; WtGBB; pg. 46

42. Monod; C&N; pg. 111

43. Munz; WtGBB; pg. 40

44. Merleau-Ponty; P.ofP.; pg. 333, 347, 364.

45. In figure #7 it is shown through an exploded diagram how the eco-system acting as its own teleonomic filter turns back in upon itself to cut out what is to be destroyed, allowed to proliferate, and fostered.

46. Russell, B.; The Principles of Mathematics;(Cambridge, Eng.: 1903, 2nd ed.)
Russell, B. & Whitehead, A.N.; Principia Mathmatica;

47. Copi, I.; The Theory of Logical Types; (London; RKP, 1971); pg.23-24

48. Copi; TLT; pg.107-108
Ref: Tarski, A.; Logic, Semantics, Meta-mathematics; tran. JH Woodger; (Oxford: 1956)
Russell, B.; 'Introduction', Tractus Logico-Philosophicus; by L Wittgenstein, 1922
Kneale, W.&M.; The development of Logic; (Oxford; 1962)

49. Copi; TLT; pg. 114. For another explanation see G. Keene; First Order Functional Calculus; (London: RKP, 1964); pg. 4

50. Bateson, G.; Steps Toward an Ecology of Mind; (London: Paladin, 1973); pg. 250

51. Wilden; S&S; pg. 356

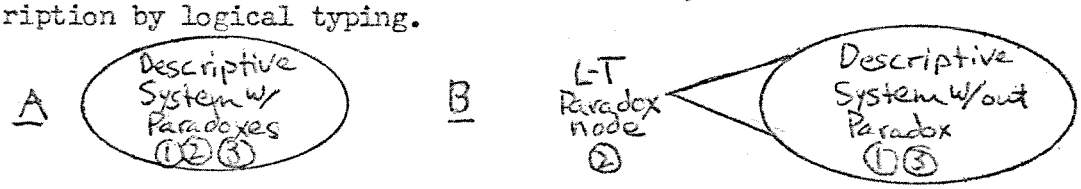
52. Bateson; STEM;
Also note that a similar sort of distinction is made by S. Korner; Categorical Frameworks; (Oxford: Blackwell, 1970); pg. 51-56; LSE R/WA15490 , between Interpretation(MC) and Idealization(ML).

53. cf Copi; TLT; pg. 84-88. Appeals to such illegitimate totalities as 'all functions of type n' or 'the universe' or 'the nameable' are ruled out by the ramification into orders.

54. Wilden; S&S; pg. 122. All this could be more easily said by pointing out that inorder to institute a theory of Logical Types one must appeal to the very illegitiment totalities that the ramified theory is meant to do away with. cf Copi; TLT; pg.71-75

55. This is really a crucial point because it seems that the framing of categories of the same logical type is precisely where time & space destroying Objectivity enters the system. The relationship between Logic-typical description and

time & space is difficult to fathom. Logical Typing serves to gather all the paradoxes together into a single node outside the descriptive system proper. This node can be identified with the teleonomic filter or any Second or Imaginary element which is excluded from the system of description by logical typing.

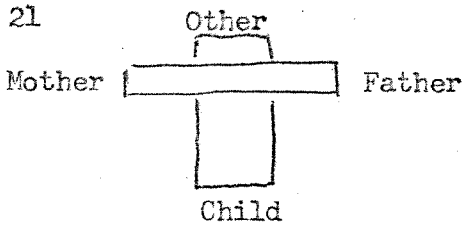


Thus there seems to be an inverse relation between A & B. A paradoxical system hides its logical typing and a logically typed system hides its paradoxes. Thus both A & B seem to be equally time & space destroying and are really Objectively interchangeable.

56. There is a differance of <u>one and only one</u> Logical Type

57. for another example see S. Gooch; Total Man; (LOndon: Allen Lane, 1972); pg. 163

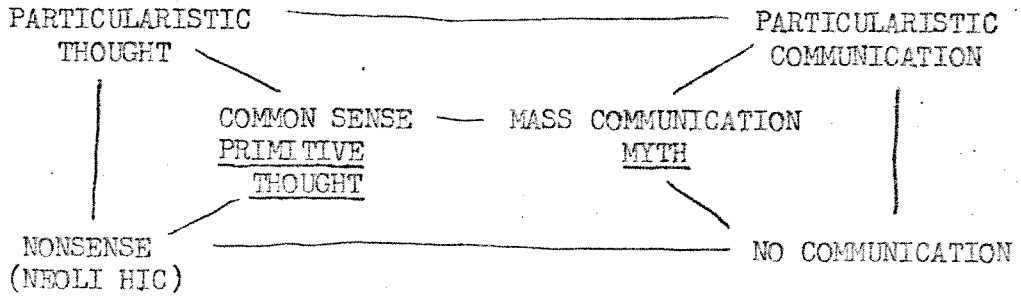
note also Wilden; <u>S&S</u>; pg. 21



58. see my second M.Sc. paper (footnote #1)

59. Merleau-Ponty; <u>P.of P.</u>;

60. Roger Silverstone's critique of Levi-Straus. unpublished paper given at LSE in the Sociological Theory Seminar (Martin/Barker) Lent Term 1974 titled "Levi-Straus and Mass Communication" Feb. 1974, pg. 11 & 12.



"the model serves primarily to define the middle term. . ." pg. 12

61. Merleau-Ponty; P.of P.

62. Fuller, R.B.; Operation Manual for Space Ship Earth;(Carbondale & Edwardsville: So. Ill. U. P., 1969); pg. 63

63. Lanigan, R.L.; Speaking and Semiology;

64. X & Y might be Science & Art as suggested in R. Silverstones paper.(cf footnote58

65. Mitosis

66. Leading to the exposition of the M.S.H. triune series.

67. Bateson; STEM; pg. 238

68. Fuller; OMSSE; pg. 66

69. Fuller, R.B.; Utopia or Oblivion; (London: Allen Lane, 1970); pg. 97-133 for tetrahedral & octahedral geometry LSE R/WA13428

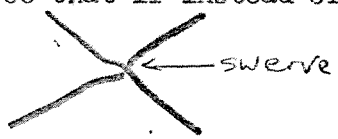
70. For a three dimensional example see the structure of the light sculpture on the top of the Hayworth Gallery at the south end of the Waterloo Bridge in London. At night one can see the helix strands traced out in the blinking lights.

71. The Octahedron is internally braced by three irregular tetrahedrons.

72. For those who think it might sound a bit more like mysticism they may refer to W.B. Yeats; A Vision; (London: Macmillan, 1937)

73. (sic)

74. Fuller; UorO; pg. 83
Fuller shows how two intersecting lines do not infact have a point in common but each swerve to avoid the other. Thus one may see that if instead of going their merry



way, these two intersecting paths of events were held constantly along side of one another for a period of time then this slight swerve would be the begining of a double helix form.