ENNEAGRAM STUDIES

J.G. Bennett

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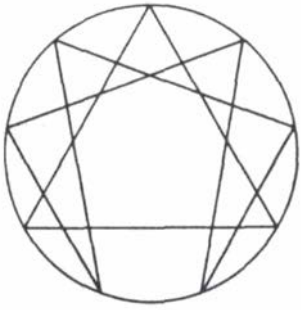

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Contents

List of Figures

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I have edited the original material to suit inclusion in the present work and these changes - and also the views expressed in my Preface-are entirely my responsibility and any errors are entirely due to myself.

A.G.E. Blake

Preface

The principle of the enneagram is a great secret. It is through this principle that we can work our way into reality. It is the pattern of useful, effective and transforming effort wherever there is work that is not self-defeating. It is the way through which true value is added or realized. It is God, the guru and the disciple united in harmony.

Although everything that finds its way into reality does so through this intelligent pathway, the nature of it is hardly known. When even tiny aspects of it flash into our awareness we are astonished that things are so arranged. Every example of it that we experience tends to be confused with what it is about-art, science, living organisms, self-development-and the essence is missed. An expert will appear and work wonders or a guide will come forward and lead people in the progress of their transformation; but then the expert is extolled and the guide glorified while the reality of what it is that enables the achievement remains unseen and unsought.

To study the enneagram is rather like trying to read the void. What is really there vanishes at every point into nothingness; yet out of it comes the power to create universes. The explanations and examples given here are merely food to be transformed. One needs a strong stomach and the right digestive Juices.

J.G. Bennett spent a very long time working on his understanding of the enneagram. From what has reached us since his death, we begin to realize that he hardly scratched the surface-as he was always telling us. Even the explanations given by Gurdjieff himself were only fragmentary glimpses of the great secret. Maybe at the present

time there is a great power in the world that wishes more of this secret to be revealed to those who are hungry for it.

The core of this book was originally published in 1974 and consists of the odd chapters l, 3, 5, 7 and 9. We have added material from Bennett's *The Dramatic Universe, Needs of a New Age Community,* and also from the Journal *Systematics* to concentrate in one book what we are at liberty to publish. The articles by King and Pledge are a most valuable addition. We would have liked to have included material worked on by groups not connected with Bennett, but the time is not yet ripe. This is a misfortune, as the published material on the enneagram represents only a fraction of its scope.

Knowledge of the enneagram comes from a very high source and is not exclusive to Gurdjieff and his followers. New knowledge has been released to a few people in the West but has to be transmitted in a practical way through real inner work. It is enough to say that all who have a will to understand will find a way to the material they need and what is included in this book may serve as a stepping stone to some.

A.G.E. Blake
Daglingworth, December 1979

Introduction to the First Edition

We live in a world of bodies and energies. The heavenly bodies, such as planets, stars and nebulae, are huge compared with our own bodies, but they are bodies all the same. Atoms are minute, but they, too, are bodies having size, shape, duration in time and location in space. All these bodies are constantly exchanging and transforming energies, but they do so in very different ways.

One obvious distinction that can be made is between non-living and living bodies. Non-living things are in a state of decay and continual dissolution. Living things are in a state of self-renewal or transflux equilibrium. Non-living things may endure for a long time, but their fate is sealed the moment they come into existence: sooner or later they will cease to exist. Living things do not endure for ever and their lives may even be very short and precarious, but so long as they are alive, they have the power to maintain themselves at a higher energy level than that of their environment.

We human beings belong to the world of life, but we are not satisfied with this short and precarious existence. We want to endure. Some want immortality or an endless life beyond the grave. Others want to perpetuate themselves through their children and descendants. Many wish to live for posterity in memory or in the works they have created. Some simply want to put off the moment of death.

It seems that men have always been in search of the secret of perpetual self-renewal. We find it in one of the oldest legends preserved by man: in the story of Gilgamesh

the Sumerian hero and his pilgrimage in search of the secret of immortality. At about the time that the Gilgamesh epic *was* compiled from earlier song, some 4,500 years ago, there arose in Mesopotamia a brotherhood of wise men who discovered the cosmic secret of perpetual self-renewal and passed it down from generation to generation. For a long time it was preserved in Babylon: 2,500 years ago it was revealed to Zoroaster, Pythagoras and other great sages who congregated in Babylon at the time of Cambyses (the Persian king who conquered Egypt in 524 B.C.). Then the custodians of the tradition migrated northward and about a thousand years ago reached Bokhara across the river Oxus.

In the fifteenth Century, mathematicians trained in their schools discovered the significance of the number zero and created the decimal number System which all the world now uses. It was observed at the time that a new kind of number appeared when one was divided by three or seven. This we now call a recurring decimal.

When one is divided by *three* an endless succession of threes is obtained, thus

1/3 = .33333... written .3

The addition of another third part to this produces endless sixes, thus

1/3 + 1/3 = 2/3 = .66666 ... or .6

When the final third part is added also, endless nines result, thus

1/3+ 1/3 + 1/3 = 3/3 = .99999 ... or .9

Hence we obtain a symbolism for one as an endless recurrence of the number *nine.*

When one is divided by *seven,* however, another and more complex pattern of numbers appears, which contains no threes, sixes, or nines. Thus

1/7 = .142857142857. . . or . 142857

and successive additions of seventh parts reproduce this pattern, but start from different digits, thus

2/7=.285714
3/7=.428571
4/7=.571428
5/7=.714285
6/7=.857142

When the final seventh part is added, this sequence disappears and is replaced by the recurring nines once again. Thus

7/7=.9

These properties were combined in a symbol that proved to have amazing significance. It could be used to represent every process that maintains itself by self-renewal, including of course, life itself. The symbol consists of nine lines and is therefore called the Enneagram.

Six of these lines are derived from one divided by seven and the others from one divided by three. The points where these lines touch the circle are numbered from l - 9 as in the diagram (figure l). The circle itself symbolizes the zero.

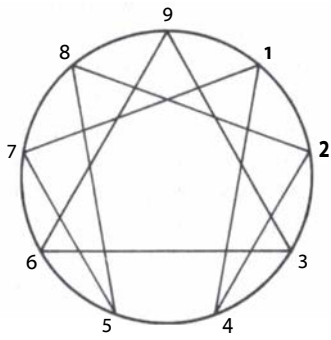


Fig. 1 / THE ENNEAGRAM SYMBOL

Everyone who has come in contact with Gurdjieffs ideas has seen a representation of this symbol which has been taken as an emblem of many institutions and brotherhoods including our own Institute for Comparative Study.

In certain parts of Asia it is used as an Instrument of divination, that is, for interpreting the pattern of events to

come. Gurdjieff said that in a certain World Brotherhood, the Enneagram is the repository of their most important secret knowledge and that members of the brotherhood can not only recognize one another by the Enneagram but ascertain by question and answer which of the two is more advanced and therefore should take the role of teacher.

The Enneagram can also be used to represent the life process of any species of plant or animal including man. Moreover, it can be applied to any organization as a test of its capacity for maintaining its own existence and for the detection of weaknesses and defects. We are at this time conducting research into the different ways by which people perform tasks involving leadership, co-operation, Subordination, foresight and resourcefulness. These various qualities required for successful action can be represented by the lines of the Enneagram which enables us to relate them to the needs of the task as a whole.

We have here to recall Gurdjieffs use of the seven-toned musical scale as a symbol of the process of transformation. Starting from the property of sound vibrations that consists in repeating the same tone or quality of sound each time the rate of Vibration is halved or doubled, we have the diapason (in Greek "through all the steps") or octave. About 2,500 years ago it was discovered that the intermediate sounds given by adding a quarter, a third or a half produce sounds acceptable to the ear. In this way Pythagoras and others established what we now call the seven-toned scale, the notes of which were named by Guido d'Arezzo five hundred years ago *(do - si - la - sol - fa - mi - re).* It was noted at a very early stage that the intervals between *do* and *si,* and between *fa* and *mi* are different from the other five in as much as they change the pitch only about half as much. These were called Semitones. The Greeks did not attach any special importance to this property, but in Central Asia it was given a cosmic significance. Gurdjieff came across the tradition and developed it as a central feature of his system. In *Beelzebub's Tales** the intervals *do-re, re-mi, fa-sol, sol-la*

**All and Everything* or *Beelzebub's Tales to his Grandson,* by G.I. Gurdjieff.

and *la-si* are called *Harnel-Miatznel* and are said to conform to the principle: "The higher blends with the lower to actualize the middle and so becomes either higher for the preceding lower or lower for the succeeding higher." *(Beelzebub's Tales,* p. 751). The intervals *mi-fa* and *si-do* are called *Mdnel-In* and are the places where the process must receive "help from outside." This is shown in the Enneagram where the points 3, 6, and 9 are Mdnel-In, for the three preceeding octaves. The point *sol* which is the most remote from the two *do's* is called *Harnel Aoot.* Here the process is said to be "disharmonised."

For a fuller account of the "Law of Sevenfoldness" reference should be made to my book *Gurdjieff - Making a New World.** It is only from experience that we can be convinced that Gurdjieffs "intervals" give a satisfactory account of the way things go right or wrong in a self-regulating process.

This book is based upon talks at Sherborne House in 1973 and 1974, given to students already familiar with Gurdjieffs ideas and revised to make them suitable for any reader interested in understanding the esoteric tradition.

The ideas in the section about the planetary Enneagram have much in common with New Age thinking, but they have a special message for those groups who are seeking to prepare themselves for the coming times of troubles. However differently these groups may view the Situation and however conflicting their detailed allegiances may appear to be, they need to know one another and share as far as possible their experience and understanding. There is no exclusive way to the truth, not even one best way, though each of us may think so. The Work, like Nature, produces a vast multitude of seeds and scatters them abroad to ensure that, however many may fall by the wayside, the harvest at the time of reaping will come. We must nurture our own seeds, but not for that, neglect those of others.

J.G. Bennett 1974

**Gurdjieff - Making a New World,* Tnrnstone Press, 1973, Appendix II.

Seeing the Whole

Gurdjieff once said: "To know is to know all, not to know all is not to know. To know all it is necessary to know very little, but to know that very little, one must first know pretty much." The Enneagram is an experience of that little; but to understand it we need much experience. It can become for each of us an endless source of understanding and Inspiration, for it enables our thought processes to shape themselves both according to the shape of the world and to that of our own being. It is an Instrument that enables us to see when and how events conform to cosmic laws and so recognize what is possible and what is impossible in human undertakings.

The Enneagram is an Instrument to help us to achieve triadic perception and mentation. Whereas our ordinary mental processes are linear and sequential, the world in which we live is threefold. According to Gurdjieff, threefoldness is one of the "fundamental Sacred Cosmic Laws" and must be studied by anyone who wishes to understand himself and the world in which he lives.

We find it hard to look at the whole of what is happening in and around us because our thinking is linear, by which I mean thinking along one single line or by association. We miss significant episodes and cannot understand how it is that processes go the way they do. When things go wrong we seldom know where, nor how to put them right. This is not a serious handicap in thinking about processes that are themselves linear, such as most of

those in the material world. However it breaks down when we try to think about man and his ways, for these are not linear. Man is very complex and his life is always made up of different processes that cannot be separated without falsification. To think about man effectively we must get beyond linear thinking in order to see the inner cohesion. The Spiritual world is totally non-linear and this is why we cannot ordinarily think about it at all. We must therefore find a new way of thinking. In order to change our way of thinking we have first of all to recognize that it is not a matter of looking along several different lines at once but recognizing that there is structure in what we are looking at. The structure may be imperfect, but if it were not there at all, we could understand nothing.

To illustrate this, let us take the example of a meal being cooked in our kitchen at Sherborne. The obvious thing is to look at the food and to say that the process of preparing a meal is a process of transforming food. This is quite true, but it is not the whole story for something is also happening in the kitchen itself. The kitchen has to be in a certain state of preparation and things in it are going to change. Its state has to be maintained. It is not enough to have cooks: some have to play the role of kitchen boys and cleaners, whose task it is to maintain the conditions which allow the meal to be cooked. Help is needed in preparing the vegetables or other raw foods. We usually take all this for granted and do not notice its importance because our thoughts are flowing in a single line. We notice only when things go wrong, and then the cook begins to concern himself with the function of the kitchen boy and the kitchen boy begins to concern himself with the cooking process.

Linear thinking will assume that only the cooking process is important and disregard the need to maintain order in the kitchen, the cleanliness of the Utensils and the Provision of what is required. However the whole process of cooking a meal is not confined even to these quite distinct series of events; the one being the changes that are happening in the kitchen itself and the other the changes that are happening to the food. There is also something happening to the people and it is necessary that this too

should be taken into account. When a meal is being cooked, especially when it is on a fairly large scale, which makes these distinctions significant, many people have to be taken into account: the people who are cooking, the kitchen boys, the people who are preparing the table and the entire community which is going to eat the meal. What is happening to them is also an essential part of the whole process; they have to be able to communicate with one another to understand one another's needs, and if necessary to change their roles. Those who cook will in turn become those who eat. Again, we can see that this is obviously necessary and we do not attach special importance to it all unless something goes wrong, at which point we may say that there is a "bad relationship" between the cooks and the kitchen boys and so everything is going to pieces, or perhaps people have not taken the trouble to find out what is going to happen with the meal; who can eat what, who will be there or will not be there, so that too much or too little is cooked. Something has gone wrong, but we do not associate this "something has gone wrong" with the cooking of the meal. Now if you look at the preparation of the meal for the house as one whole event, you can see that each of these three processes can be thought about linearly, yet each of them is quite distinct in nature from the others. They do not replace one another. Looking at it in this way, if you ask: "Could you cook a meal without a kitchen, without Utensils, without fire?," the answer is: "No, cooking would cease to be there at all if there were not all these things in some form or other." Even if you are camping in the open air you would still require certain conditions and implements with which to make it possible. It is obvious that you cannot cook without food, as you cannot or would not cook if there were no one to cook for. So food and guests are both independent of one another and also mutually necessary. There is no such event as cooking a meal unless the kitchen, food and guests are present. They are closely interdependent. How one goes will determine how the others go. But how they will affect one another is not at all obvious and in general it is by experience alone that little by little we learn what is required.

With experience, it is possible to see that there are different rhythms. The order of the kitchen and its Utensils goes in a cycle which completes itself. When everything is properly organized, the kitchen starts clean with all the Utensils clean and in their own places and when the meal is finished it is brought back again to its initial condition. It has completed a cycle. Something has happened in the kitchen, but the kitchen has returned to its prime state. With the food something different has happened for the food has changed its nature from being raw to being cooked. It has not returned to its primitive state but instead has been through a variety of irreversible processes.

With people it is neither the one nor the other. They neither go through a cycle nor through an irreversible change. If everything is right, they know and play their roles and so remain free. If they become identified and lost in the process, then something of completeness and perfection is lost. By playing their roles without losing their own freedom, the people can remain independent of the process and yet it is they who make the process possible. Everything depends upon their activity, but their activity does not go through the same kind of processes as the kitchen or the food, or should not do so. They can become involved if, for example, the kitchen comes into disorder and then people themselves become identified emotionally with what has gone wrong. If they remain free the process will be right. If at the end of the cooking they have become exhausted, or in a bad humor, of if they have become excited or anything has happened as a consequence of cooking the meal, again energy has been lost, something has been wasted. They have been cooked, as it were, along with the food.

This is all to illustrate what I said at the beginning, that there are different kinds of processes and in general, events depend upon the working together of processes of different kinds or natures. We seldom come across processes that are so complete in themselves that it is possible to recognize this structure or manner in which they work together. We live for the most part in a complicated nexus or network of partially completing processes that together muddle the world along. But where you find a process

requires to be completed, then you find that this structure which I have just been describing in the case of the kitchen and the cooking of a meal, does stand out. This, of course, is not accidental: it is the working of cosmic laws which are exemplified on every scale, large or small.

Let us take another example from our life as people. Man has three different natures to be complete: there is his bodily nature, there is his will or spiritual nature and there is his being or soul nature. It is right although very seldom understood correctly, that Man has got three parts, body, soul and spirit. In the true Man, body, soul and spirit are present together like the three parts of cooking a meal. The body compares with the kitchen, the soul compares with the meal, the spirit or will compares with the people who do the cooking under the direction of the chief cook. I use the word will and spirit as meaning the same thing. These three quite different natures in Man are involved in three different processes in life. The body itself passes through a cycle from birth to death. We do not usually see how this cycle renews itself or that our life as we know it is really just the cooking of one meal. The meal that is cooked in our lives is the soul. The raw material of this meal is all our experience. In a more general way it can be said that there is the world looked at as the scene, the theater or the stage on which the events occur and this world is like the body or the kitchen. There is always this similitude. Within this there is a process going on, in which something is being formed. The notion of the soul of the world, "anima mundi," is an ancient one. There is also the power or the will that is seeking to provide itself with the instrument of the world soul. In the same way on this earth there is this planet, which again is like the kitchen, and there is the life on earth. This life is gradually being transformed until finally it is able to be taken into a larger process. On a great scale lasting over thousands of millions of years there is a great cooking taking place on this earth. There is also a Will which is concerned with bringing about the great event of the production from this earth of a living whole to serve some great purpose or cosmic banquet.

The first thing to understand about the Enneagram is the universal similitude of events. Where the threefold nature of events is not present there is something unreal; a dimension is lacking. As I said in the beginning, we fall into mistakes by trying to understand and interpret events in terms of one or other of the dimensions. Looking, for example, at the present situation in the world in which we human beings are vitally concerned, firstly without having the picture of the Enneagram in our minds, and then with that picture (which one cannot help realizing must correspond to reality) one might, using the analogy of the kitchen, ask: "What are the kitchen boys doing? What is happening to this kitchen? The cooks do not seem to be in charge. The meal is getting undercooked in some directions and burnt up in other directions. This is not going very well." If you do not look at it in that way, what kind of picture do you have of the situation of mankind? You have the assumption that the meal is cooking by itself more or less in a vacuum. But once you have caught the similitude and seen how it must be, you realize that it cannot take place in a vacuum. We may be intelligent living beings but in truth, so far as the world process is concerned, we are just half-cooked food.

In our own bodies we have the example, which is usually taken for illustrating this theme, of the three kinds of food for Man which are called food, air and impressions. We make the mistake of thinking that only the coarse food we eat is nourishing us because it enters our sense experience. The coarse food we eat is concerned with the state of the bodily organism, it is not our soul food. The reply Jesus gave Satan: "Man shall not live by bread alone, but by every word that proceedeth out of the mouth of God," gives us this clue. It is not bread but breath that feeds the soul. Gurdjieff expresses this by calling the air we breathe, "our second being-food." We are also nourished in a still deeper sense by our experience. Our spiritual food is distilled from our experience of life. Our transformation depends upon the way we assimilate the energies derived from these three foods. For those not acquainted with Gurdjieffs ideas, to

call these three sources "foods" is deceptive because they are food in different senses and this causes people to think about Man's transformation rather awkwardly. What happens to these three sources is totally different. The food that we eat, our ordinary food, moves in a cycle. It circulates and does no more than maintain the state of the body. As in a kitchen with the utensils which have to be kept in order and the heat which has to be provided for the cooking, it is the source of the basic energy by which the transformation comes, but it is not the food itself. The food, that which nourishes the soul of Man, is the air that he breathes; but if we begin to look at the air and expect from it the same sort of changes that we see in the food we eat then we miss the point, because it is totally different.

This transformation of air has for some reason been dropped from human understanding and knowledge for a long time. We have only the remains of an ancient knowledge to tell us about this because in various languages we have words that are left which link air and soul. The word "anima" in Latin is both the breath and the soul; the Arabic "Ruh" or Hebrew "Rokh" also means breath and soul. In Sanskrit, the root "TMA" which refers to breath gives "Atman," the self or soul. The root "NFS" gives in Arabic "Nefes" which is breath or self and in Hebrew "Nefesh" with much the same meaning. In the Turanian language the root "Tang" enters the words for air, sky and clouds and also appears in the word for the Great Spirit "Tangri."

The nomads of Central Asia whose migrations east, south, south-west and west have transformed the entire oikoumene* from the Atlantic to the Pacific, worshipped Air and Breath as the Spirit Power, the source of all life and wisdom. The further back we go, the stronger is the evidence of a universal belief in the correlation between breath, the life principle and the soul of man. We have lost contact with the belief that breath control has some special significance for the transformation of man. It exists mostly in old traditions that have been almost lost in the West and has been brought back in recent centuries from the East. People

*A Greek term meaning, literally, "habitat **of** mankind."

hear words like "prana" and they know that this prana has something to do with the inner life of the soul of Man, but that is just about all. Therefore, it is not surprising that people understand very little about how the soul arises in man, that what happens to the air we breathe is comparable to the process of cooking: something has to happen so that it can become fixed.

Then there is the third kind of action which is concerned with our experience. We recognize that how we see, hear, think and feel, and what happens to us in our modes of experiencing are all somehow important to us. What is not so easy to see is that what matters is where our Will is in our mode of perceiving. How far are we detached and free in all this experiencing? How far are we able to be our own cooks? This process belongs to our transformation as a whole. It is not enough to treat air, food, and impressions as if they were raw materials that undergo transformations in the same way food does when it is cooked. Three quite distinct processes are indispensable for us and for our relationships with one another. They can be understood only if the way they work together is grasped. Gurdjieff said—and it is to be found in many traditions as for example, in the *Rig Veda-thai* it is by breath that the soul of Man is born. Here something is said which is wholly significant, but unfortunately largely beyond our reach, because when looking at our own transformation we are not able to have the necessary detachment to be able to occupy the position that the cook holds in the kitchen.

It is necessary to insist that the Enneagram cannot even begin to mean anything to you until you have grasped the distinctness of the three processes and their interdependence. By reflecting on this you begin to see how the structure is universal and how it is woven into the very fabric of the world; this is because the nature of the creation of which we are part is a combination of what is happening, to whom it is happening, and how it is happening. These three components, which we call *the function,* the *being* and the *will,* enter into everything. They are not reducible to one another. They all obey similar laws but the laws work differently for the three of them.

In general, the functional aspect of every completed event is rhythmical. Everything that happens, happens in cycles. For example all the functioning of our organism is in cycles: our breathing, heart beat, activity and repose, birth and death. It is all a process which returns into itself and renews itself. Where function does not appear to be cyclical, it is either because it is a broken or interrupted process, or because what we are looking at is a small part of a greater cycle and appears to be secular because we see too little to recognize its rhythm.

Being is not like that. Being does not return into itself, nor does it undergo this kind of progression of cyclical transformation. It is always either integrating or disintegrating, evolving or involving, moving towards unity or multiplicity.

With the third component, will, there is the great difficulty which we are always up against that makes it so hard to know what to say. Whether there is will or not will is impossible to say. Even such simple questions as "Does the will exist or does it not exist?" or "Does it change or remain the same?" or "Is it one or many?" turn out to be meaningless because we are looking at a thing to which that kind of distinction is not applicable. Other questions which seem to us to be applicable to anything at all are not applicable here. It is very confusing and hard for us. We say, "If it is, it must be somewhere. If it is a reality then at least it must exist." If we ask: "If we have will, have we got one will or many wills?," we are told: "No, this is not the way to speak for there is no distinction between one and many. Unity and multiplicity are only in our being, not in our will." It is easy to illustrate this. Water on the earth is one and the same everywhere and yet it takes many forms depending on the conditions of external existence. The rivers, seas and oceans, the clouds and the rain, the water in a reservoir, a container or a dew drop on a leaf are all the same water. The basic action of water is always the same: it is a neutral fluid that makes an endless variety of transformations possible, but it is not itself transformed. Water perpetually returns to water. We could say, although in different words, just the same about will.

One way it is possible to speak is that there is one will which is fragmenting into many, and many wills which are integrating towards a single will. Saying that, we are not really speaking about will itself but only as it manifests through being. Although we can say that we have many different selves in us, which can integrate and fragment and so make us more or less divided, this does not apply to will.

The three processes, function, being and will appear in different forms; sometimes it is easier for us to have a picture of them, sometimes much harder. In man, we speak of body, soul and spirit, and in the kitchen we have the kitchen itself, the food, and the people who are to eat the food. In general there is something that you can call the circumstances, conditions or place, something which undergoes transformation and something which brings about that transformation or which uses that which is transformed.

The Overcoming of Hazard

No one who has observed human affairs and human history can doubt that uncertainty and hazard are as real as order and completeness. No account of man and his world would be worth much that did not give full weight to the reality of uncertainty, and show the way beyond it.

The key to the problem of hazard consists in the combination of dynamism and coalescence which comes by joining the properties of the triad and the hexad. This is obtained by adding a triad of transformations to the hexad to obtain the symbol known as the Enneagram.

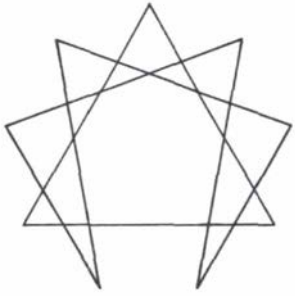


Fig 2 / TRIAD AND HEXAD COMBINED

The symbol is usually drawn in a circle representing the serpent Chronos that devours itself by its own tail.

The nine-term system has the systemic attribute of *harmonization* and the terms are of two kinds: there are *three sources* and *six steps.* In the diagram (figure 3) the sources are numbered 3, 6, and 9 and the steps 1, 4, 2, 8, 5 and 7. There is a two-fold progression: around the circle from one to nine and about the hexad in the order 1-4-2-8-5-7.

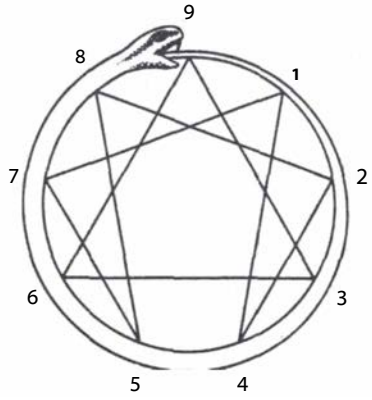


Fig 3 / THE SERPENT CHRONOS

The enneagram can best be understood by considering a widely recognized defect in the principle of causality. To be meaningful, an effect must be uniquely related to its cause, so that it should be possible to draw a line from a cause A to its effect B to represent P, the path, or sequence of events.

A---------->B

Fig. 4 / IDEAL CAUSALITY

The process P initiated at A must encounter environmental conditions that destroy the simple one-to-one correspondence AB. It is no longer possible, knowing A, to predict B with certainty. The process P will deviate from the expected path and lead to a modified effect B^1.

Fig. 5 / DEVIATION OF CAUSAL SEQUENCES

The causal link AB has broken down and is replaced by the indeterminate linkage AEB^1 where E stands for the environmental conditions. Thus, a man sets out from A to reach a destination B, but he meets a friend E and changes his plan and goes to B^1. In practice, deviations of this kind occur in all processes subject to the laws of existence, and from this comes the uncertain and hazardous character of events both in human life and in the world at large. It is possible to arrange matters so that the line P when deviated by E is restored to its original direction by a secondary causal impulse S, thus enabling it to reach B after all. The man who meets a friend, may also receive a reminder that he is needed at B and so return to his original path. This is over-simplification, for the tendencies to deviation are so varied as to be unpredictable, except where an artificially contrived experiment is being made. This is done in scientific research which seeks to compensate for the unpredictable impulses E by carefully adjusted experimental conditions. When the laboratory experiment has to be changed in scale and transferred to the conditions of practical life, new problems of compensation and adjustment arise. Dealing with these is the field of technology and it requires an insight into structures that comes only with much experience.

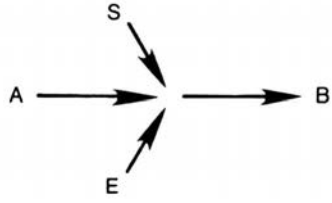


Fig 6 / CORRECTION OF DEVIATION

Even when all possible adjustments are made, uncertainties remain and the outcome of a process never corresponds exactly to the initial plan A. We discover this to be so for all human undertakings and we should expect it to be so in all directed processes subject to the conditions of time and space.* If we interpret A as the whole causal nexus and B as the purpose or goal; the inevitability of deviation remains. A cannot include all the influences that may affect the process once it has been initiated; nor can B include all the conditions in the future that will determine the practical success or failure of the enterprise. The man in the journey may succeed in reaching B and then find that an unexpected change of plan, outside his control, has made his journey useless.

Generalizing these considerations we can reformulate the proposition regarding universal hazard in the following form:

> *The Structure of the Universe is such that no process whether causal or purposive or both can reach completion except in artifically contrived environmental conditions.*

This proposition is attested by all experience and it is the almost obvious consequence of the character of the determining conditions of space and time. Nevertheless, it is commonly disregarded both in the study of nature and in the practical affairs of human life. If we accept it, then the meaning of the expression "artifically contrived environmental conditions" assumes an enormous importance and presents itself as the key to understanding life itself.

It is not hard to see that the required conditions must involve at least two independent lines of actualization: one to give initial direction and the other to effect the necessary adjustment and adaptation. For example, a motor-car requires both an engine and a driver if it is to reach its destination: the one makes it go and the other ensures that it goes in the right direction. In modern times, men have

*Potentiality is always richer than any possible actualization. Although the exact realization of a plan is theoretically possible, the odds against it are so great as to make it impossible in practice.

begun to devise self-regulating mechanisms. The "primary mechanism" and the "feed-back" that enables them to adjust to changing environmental conditions are constructed independently. Cybernetic theory takes into account the possibility of changing the end-points so that the mechanism is not only self-regulating but self-improving. In this case, there is a third independent operation: that of testing the final condition and comparing it with the ideal. Operational feed-back and end-product self-perfecting make, with the primary construction, the three terms of a triad. It is noteworthy that when these conditions are approached in a factory producing a mechanical device like a motor-car, the structure of the organization is found to approximate to that of the enneagram.* The study of living organisms shows that these structures, that are not only self-regulating and self-renewing but also purposive, always conform to the same pattern. It thus appears that, while the very nature of existence is to be pervaded with uncertainty and hazard, there is built into it a means whereby uncertainty and hazard can be overcome. The importance of this supposition can scarcely be exaggerated. If it can be confirmed, it will give us the key to the Universal Drama: the *Deus ex machina* whereby the seemingly inevitable tragedy is redeemed and brought to triumph.

At this stage we can do no more than develop the formal systematics of the enneagram. We shall start by setting down some more or less obvious statements:

1. Every *process,* leading from an initial state A towards a final state B, must undergo deviation and distortion due to environmental disturbances.

2. Only with an *artificially constructed system* of compensation can a process be made to continue in a predetermined course.

3. A *point of hazard* can be identified at which a process can be corrected for deviation by the impact of a second independent, yet related, process CD initiated at that point.

4. The second process itself requires *adjustment* in the same manner as the first. When this second adjustment EF

*cf. Chapter 4.

is correctly applied, the system is brought into a state of *dynamic harmony* that can continue indefinitely so long as the construction holds together.

5. The three processes must be such as to blend and reinforce one another after each point of *mutual impact.*

6. The *construction* must be such that there is an interplay of adjustments apart from the processes themselves. The latter produce the result and the former help the construction from collapsing or degenerating.

These various requirements can be represented by the symbol of the enneagram.

The three processes AB, CD and EF correspond to the three points of the triangle 9-3-6. They are the dynamism of the structure.

The inner construction corresponds to the six-pointed figure 1-4-2-8-5-7 which indicates the way in which the processes correct and reinforce one another to obtain self-renewal.

The first process AB enters the construction at the point 1. It reaches its hazard-point at 3 where it meets process CD and the two continue through the points 4 and 5. At 6 the second hazard is corrected by the entry of process EF. The completion of AB occurs at the point 9 where the final hazard must be overcome.

The arrows on the figure 1-4-2-8-5-7 indicate the direction of the flow of influences within the structure.

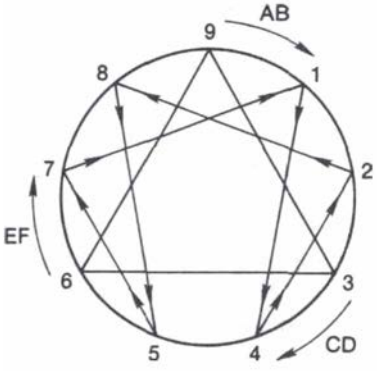


Fig. 7 / THREE MUTUALLY CORRECTING PROCESSES

A *Kitchen at Work*

The Enneagram is not an artificial or arbitrary scheme, but the simplest and most natural way of looking at events and the way they occur. We can start again with the example of the kitchen.

The kitchen must be in readiness: clean, equipment ready, instruments and utensils in their right places. It has been brought into this state before the cooks come in. The next thing that is required is that the meal which is going to be cooked has to be understood: what utensils, where you will work, in what order everything will be done, who will be responsible for what. Sometime or other all these things have to be settled in advance; but for the orderly process, they must all be taken into account. If as chief cook you are placed in charge of a meal, you will enter the kitchen in a different way from a non-cook. You will look at each thing in the kitchen and although perhaps nothing has moved, you will see them differently. You will decide that this utensil will be used and that another is not going to be used but is going to be left on the shelf. Maybe some things are not actually got out and made ready; but at this point it is possible to say of everything in the kitchen what is going to be or likely to be used, and what will not be.

Something we will call an "invisible pattern" has now come into the kitchen. The future course of the events is already to be discerned. At the first stage, one could not distinguish between needed and not needed, now one can. Those who are concerned in the kitchen look at everything

with a different eye, they notice the things that will be needed and cease to notice the things which will not be needed: but nothing has begun, nothing has happened except possibly that some things have been brought out. We all know what has to happen now: the food has to be introduced and then stage one, the beginning of the cooking process, which is the preparation of the food, commences.

One can picture the process of preparation although in practice it does not all happen before any cooking begins: but it is all present prior to the cooking. The real change comes when some kind of energy is brought to bear, particularly, in this case, fire. This is the characteristic of cooking. It may be that one does it in other ways: something has to be pounded up or chopped up fine or shredded, but some kind of input of energy is required to transform the food into the meal. It is then that the irreversible stop is taken. Once this energy has been put into it, characteristically in the form of heat, it cannot be returned again to its former state.

Next the cooked food has to be transformed into the served food; the meal is presented to the guests, to those who are to eat it. Various things happen now. There are sauces and garnishings, carvings and arrangings, servings and carryings, all of which result in the food being taken out of the kitchen in the form of a meal. The various parts of the dish are blended together and presented by a different kind of process than that of cooking. When everything is done well and as it should be, it now has more of an aesthetic quality. The aim is no longer to transform the food into an edible condition but to make it palatable. Before, up to that point, **we** were concerned with the needs of the body. Now we are concerned with the experience of the people who are going to eat it. The sauce must be tasted, the food must be well presented, the colors must be right, and there must be balance. The potential for experience is being raised. Why is this? Because at this stage what matters is not so much what you are doing to the food, as what is going to happen to the people who will eat the food: how they will accept it, how they will enjoy it, how the experience of eating will be enhanced for them.

Clearly there is another stage, that of eating the food, and the whole purpose and significance of the operation now becomes apparent: the meal was cooked to be eaten.

In each of these stages, the chief cook's perspective of the kitchen changes, pictured in his mind's eye. He knows what is required so that each stage should be right. By having gained experience in cooking, he has become more sensitive to the needs of each of these six stages. Now what is very clear in this case, so obvious that it would be impossible to think otherwise, is that the process cannot be accomplished by only one component. No matter what you do in the kitchen you will not get a meal unless you bring some food into it. Also you cannot speak of a meal without taking into account the people who are going to eat it. The word meal will have no meaning if it stops short of the people eating the food or there being people there to eat it; some other word you may use but not meal. It is clear that these three things, the kitchen, the food and the meal are all needed and that they all dovetail into one another carrying the process forward in a definite and unique way. You cannot reverse the order of any of these things unless you are living in a looking-glass land. You cannot eat the meal before you have cooked it, you cannot cook it before you have prepared it and you cannot dish it up until it is cooked. So that structure is inherent in a process of that kind, but the structure is not linear. There are cross-connections and an inner coherence that must be seen and allowed for.

Here we have to see whether there is something universal, whether this illustration of the working of a kitchen is just one special thing, quite interesting in itself but no more, or whether it illustrates a universal process which is required on every scale for anything that is to reach completion.

Let us take this question of the change in the kitchen that comes about when the cooking is going to begin. Everything acquires a significance based on what is needed, but how does one know? At what does one look? One does not tell by looking at the kitchen because the kitchen is universal, and can be used for cooking any kind of meal. For cooking this kind of meal one must know what one is going

to cook. If potatoes are to be cooked there has to be a decision whether they are to be boiled, fried, or baked. It is only when you have decided a suitable method of cooking for the potatoes that you can select the utensil you are going to use, a frying pan, saucepan or an oven. This means that you have to look forward a step before you can see how to reach the second step. You have to look at the food in order to decide what you will do with the kitchen. You do not look at the kitchen in order to decide what you will do with the food. There are two ways of proceeding here: *what* goes on in the kitchen and *how* it operates. How it operates requires sometimes a look forward and sometimes backwards, but what goes on does so step by step.

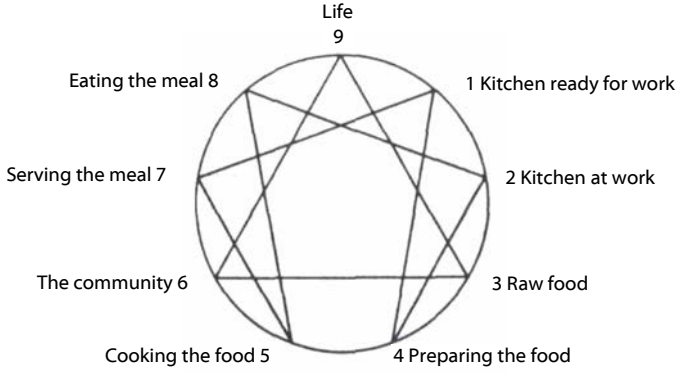


Fig. 8 / THE KITCHEN AS A COSMOS

We shall now put this scene on the Enneagram. We call point 1 "kitchen ready for work." We call the point 2 "the kitchen at work." In order to see what is required for the kitchen to be at work we look at point 4 where the food has already entered. If we say point 3 is where the food enters and point 1 is the kitchen, then moving from 1 to 2 we call "getting to work." We can easily see that we have to look in our mind's eye at 4 in order to reach 2. It is point 4 that tells us what is going to be needed and what is not going to be used or left on the shelf. This we call "preparing the food."

We can tell all that when we know what the meal is going to be and what food is going to be cooked. Where do we look then? We have to look at the actual "eating the meal." The planning of the meal is not by reference just to the food or the cooking processes but to point 8, that is, the meal itself. One has to look forward from 2 to 8. Unless one does that, the planning of the meal will be artificial or it will not have the right blending or perhaps it will not have the right dietetic balance. All that depends upon whether we have looked to what is going to happen when the meal is eaten. Therefore 2 stands between 4 and 8. The point 2 has to take account of what you have got available to cook and what it is you are going to eat in the end. It is only by taking those two things into account that the planning of the meal can be realistic and if you stop to think a minute, those are the only two things you take into account when you are preparing a meal: "What have I got to cook?" and "What is going to happen to the people who eat it?" Assuming that the kitchen is adequately equipped and has all the required conditions for cooking so that you can do whatever is possible with the food, then you are free to take into account how it will be for the people. When you stand at point 2, you are looking back to 4 which tells you what you are going to cook, and forward to the meal itself, that is to point 8.

Taking the right and left hand side of the Enneagram, you can see that they are quite different. The whole of the right is raw, the whole of the left is cooked. Another way of putting it is that the whole of the right hand side is what happens on the outside, acting on the outside of the food and the people. Everything happening on the left is on the inside. This starts with point 5, "cooking the food." The changes in the food, conversion of starches and breakdown of proteins, are all required in order to make the food edible and they happen on the left-hand side. The fire works inside all the other processes by which you make the food accessible and easily digested. Everything which concerns experience happens on the left-hand side with the presentation of the food and its visual and olfactory attractiveness as it is presented at the table. When the food has gone out of the cooking process into the digestive process, this starts

another Enneagram or cycle. This happens when the 8 has passed over to the 9 of quite another cycle, to that of digestion but with just the same structure as this one. If you look again at point 5, the actual cooking, you see two things which are significant for how you cook. One is that the food should be cooked and edible, the other is that it should be presentable. You are concerned with the experience, with the psychological or sensitive effect of the food, with what people see, touch, taste and smell and you are concerned with its further development, digestion and assimilation. These two things have to be taken into account as you stand at point 5. The whole attitude towards the food changes between the points 4 and 5. In a large and highly organized kitchen different people are concerned with the right and the left of the diagram. All the skill of cooking, the sauce making, serving and presentation, belong to the left hand side of the diagram. All the manual work, the handling of the utensils, the cleaning of the kitchen, the carrying in of the food and the cutting up and preparing of it belong to the right hand side.

Point 6 is always a difficult place to understand in this process. What is the role of the community? They clearly represent what it is all about. It is in order that these people should have a meal totally acceptable to them in terms of their bodily needs, impressions, feelings and minds that we undertake this task. If we take it as an octave, they represent the final *Do,* but what does that mean since they are placed at the point 6? This is very clear in the case of the process of cooking a meal because it is quite obvious that they come in at the place where the meal is going to be served. It is on their account that the meal moves out of the kitchen. They introduce a new significance. The food is no longer looked at for itself but for what it is able to give them and the change in themselves. Their readiness to eat, their whole digestive system is set in motion by the sight and smell of the food at the point 7 which we call "serving the meal." What happens to them is analogous to what happens to the food when it is being prepared and to the kitchen when it is being made ready. Thus the points 1,4 and 7 are all similar. Each one represents a preparation; the prepara-

tion of the kitchen, the food and of the eaters. In the same way, the points 2,5, and 8 are also similar because each one represents an action; what is happening to that particular process. The kitchen coming into operation as a cooking place is represented by point 2. It is the food being cooked that is represented by point 5. It is the people eating who are represented by point 8. Thus 1-2, 4-5, 7-8 represent like transformations but transformations occurring in quite different media. It is only the fact of transformation that is similar. The medium is totally different and the actual transformation itself is of a different nature.

If you look at the last connection from 7 to 1 you see it occurs in that way because the restoration of the kitchen to its original condition takes place as soon as the meal is served. Point 8, "eating the meal," has nothing to do with that. As soon as the meal is served, the attention of the people working in the kitchen goes back to the kitchen itself. Everything is put back in order ready for the next cycle to begin. You cannot go back when the meal is cooked for it also has to be served. It is after the meal is served at point 7 that the kitchen returns to point 1. So you see that this diagram represents the process very exactly in a way that you could not change because it is not artificial. It is just "how things are." I have shown this many times to chefs who had no knowledge of these ideas and they always said: "Yes, this is the exact picture." It can be seen from this example, how the working of three different processes is required for something really to happen.

The following paragraphs are answers to questions from students.

Point 6 is the community; the people who eat the food. But it is right to say that everyone is included, even the cooks and the kitchen boys. If we are looking at an ideal situation their concern and their interest is in this meal fulfilling its destiny. Everyone sees the meal in terms of what is going to happen to the community as a whole. It includes the cooks in that sense. If you say that the cooks

are not really the same thing as the guests, it is true. One then has to take it into account and ask oneself why. If there is not really a place in here for the cooks, where are they? One can say that the cooks represent the will which brings it all about. The whole event is the manifestation of the will of the cook and, therefore, properly speaking the cook is everywhere. There is not one place where you can locate the cook.

Point 9 represents the start of the digestion of the food. Sometimes people ask how it is that the Enneagram has points 1-4-2-8-5-7 when there is no 10 and no division into seven. It is possible to make a model, as we did many years ago at Coombe Springs, with the Enneagram in a spiral so that the two Do's are separated. Although when projected onto a plane they are the same, the process is moving up in a spiral. It is not really necessary to do this because the Enneagram is only a mental shorthand or way of carrying the pattern in one's mind. This is the value of the Enneagram and the reason why one can benefit a great deal from accustoming oneself to it so that it will enable one to look at processes and see factors coming out and things which are lacking. You can all see what happens in a kitchen when only one of these connections is disregarded. It is not very serious when the enthusiastic kitchen boy puts out a whole lot of frying pans only to discover that the meal is going to be boiled and not fried. But as you get further round, the process becomes irrevocable, changes are irreversible and mistakes begin to be carried along with the process.

This six-pointed figure in the middle 1-4-2-8-5-7 represents what goes on in the mental vision of the cook. It is the cook's mind that travels round the 1-4-2-8-5-7 while the food itself travels 4-5-6-7-8 and the kitchen passes through 1-2-3-4-5-6-7-8. As the cook looks from the standpoint of the finished meal and the meal being eaten, he has in his mind the two things at points 2 and 5. One is the state of the kitchen and the other is the process of cooking or the people

whom he has under his control. He has under his control the kitchen boys who are going to do the work on the right hand side and who come into action at point 2 and the actual cooks themselves who come into action at point 5. These two things being rightly balanced will give the finished meal. All the time his own intention is there picturing how this meal is going to be when it is eaten.

The three points 3,6 and 9 are the points of contact with the external world. The kitchen has been equipped from outside, it did not equip itself. The food has come in from outside, it was not grown in the kitchen. The guests have come from outside, they did not come out of the kitchen. This is a very important feature when we come to apply the Enneagram to the three kinds of food for Man. It is not the cook who invites the guests nor in reality is it normally the cook who orders the food, it is the caterer. It is not the cook who equips the kitchen. If we were looking at this in terms of a large restaurant, we could suppose that there would be a kitchen contractor who has set up the kitchen. There would be a banqueting manager or head waiter responsible for the arrival of the guests. The cook's responsibility would be within the kitchen. Obviously it can happen that things simplify and one person has to play several roles. Clearly a mother cooking for her family has to be everything. She even comes along and becomes a guest. But even when this telescoping occurs, the roles are still present.

We sometimes wonder why, even for people who enjoy cooking, it is so difficult to cook for oneself and so easy to cook for others. It is because it is difficult to fill the role of that *do* oneself: one has to be "one's own neutralizing force." You know how it is when you are cooking a meal for yourself, especially if you have to do it a number of times: you go into the kitchen and see the food and feel that you cannot reconcile anything to anything, so you just go off and have a cup of tea. There are all sorts of other explanations of why it is so hard to cook for oneself, but it is interesting that there should also be a cosmic explanation.

The point 7 is concerned with experience, with what is happening inside people. Externally, from the point of view of actually providing people with food, it does not matter how it is thrown onto the dish because the sauces are not in general a significant part of the nutritive value of the food. Serving is part of the aesthetic side but it is very important. A meal which disregards the point 7 very definitely lacks something. If you understand this then you understand the meaning of the note *la* in the octave. Sometimes when studying the law of octaves you may understand something about the note *sol*, but it may be difficult to see what happens except that quality is emphasized. That is very important in relation to food and in other examples of a self-completing process.

The actual process of the meal goes round the outside of the circle: clean up the kitchen (point 1), decide what you are going to cook and allocate tasks (point 2), bring in the food (point 3), start preparing it (point 4), cook it (point 5), ring the bell (point 6), serve up the meal (point 7), eat the meal (point 8), go away and digest it (point 9); it goes round the outside of the circle and that is the only way it can go. But from the point of view of the mental process and the way it is brought about, it goes 1-4-2-8-5-7. This is what makes the Enneagram such an extraordinary symbol. It is indeed a wonder that this remarkable symbol should have been produced and great respect is due to the people who devised it. It is worth mentioning here that the great Bahauddin Shah of Bokhara was called Nakshband or sign-maker and that he is said to have expressed his teachings by means of symbols. When the Enneagram first began to appear openly (probably the fifteenth century when the decimal system was introduced) it is not unlikely that Bahauddin or his successors had something to do with it.

The deep significance of the Enneagram consists in the distinction it makes between the functional cycle, which is the one going round 1-2-3-4-5-6-7-8-9 and the will cycle, which goes 1-4-2-8-5-7.

Someone asked an intelligent question about the role of fire. "Is not the fire an independent entity, does it not come in as food and people do?" But if one looks at it one can see that it is part of the instrument by which the whole process of cooking is carried out. Although it is a peculiar and extraordinary instrument, it is still that. A still more extraordinary instrument is present in the kitchen and that is the mind of the cook, which must not be overlooked. The mind of the cook is also part of the way the kitchen works. Yet it does not enter into the process, it is not the food, it does not undergo transformations.

The Chief Cook must see the process as a whole. His role is not to follow each part of the process of cooking from start to finish. On the contrary he must be able to see the end before the beginning. This "timeless" role is of central importance for understanding any cosmic process and one of the powers of the Enneagram is to enable us to see it clearly.

The Enneagram can tell us who we really are, but first **we** must leam that it speaks to us. You may, one day, discover that the Enneagram is more than a picture of yourself, it is yourself, but turned the other way round, right is left and left is right. I remember vividly when I first saw that the Enneagram was a picture of myself. Mr. Ouspensky was giving a lecture on the Enneagram somewhere about 1924 and asked me to put the diagram on the blackboard. As I was drawing the familiar lines, I felt myself going out of myself and entering the diagram. I noticed that I was facing myself and grasped for the first time the essential difference between the two sides of our bodies. How long this lasted I don't know, but from that evening, I was convinced that the Enneagram is a living diagram and that we can experience ourselves as Enneagrams. I was particularly struck by seeing that I understood the point 6, although not with my mind.

There is an input at every stage where something is done. What is the difference between the right and left hand side of the Enneagram? In another case, one would say that

the left hand side is the spiritual side and the right hand, the material. It is on the left hand side that you go out of the world in which you started. This is the role of fire in cooking. Before people did many other things in the life of man, as far as we can see, they used fire to cook their food. There must be some reason for this. It is certainly not necessary for the anatomy of man; people can survive eating only raw food. But something has made Man do this and the reason for it is that the effect of fire on food is not just to make it tasty. It releases a particular energy in the food which we need, preparing for when the food goes beyond the needs of the physical organism. One could say that if we ate nothing but raw food we would be under such strong animal influences that the human side of our nature would find it very hard to manifest. The reason for this is connected with the level of energy of the fire. Now the question is: "That is all very fine, but is not the heat from the wood which is brought in to stoke the fire as much an input to the process as the food itself? So why do you distinguish it?" If you think about it a little it begins to come into focus. Looking at the actual event as it occurs in a kitchen you do not import the fire at the moment that the food is being cooked. The fire has been provided. In a classical form the fire has been lit in the morning and everything is ready for the cooking. So the fire is already introduced at point 1. Where you use artificial things like gas and electricity, something equivalent has been done. It is part of the whole structure of the kitchen itself and it belongs to the first octave. It is not really brought in at point 5 but comes in at point 1, in the same sense that it is "laid on." Probably if you were cooking with wood or coal they would have been brought in before anything started, first thing in the morning. If you are cooking with anything that is brought in from outside, it is all laid on there from the start. The provision of the fire is inherent in the first octave of the kitchen itself. What Gurdjieff calls the Harnel-Miatznel is described in the Purrgatory chapter *of Beelzebub's Tales* by the formula "the higher blends with the lower to actualize the middle." In Ouspensky's version, we have "oxygen blends with carbon to produce nitrogen." This formula, which is meaningless to

a chemist, means that the active and passive elements in a situation can under suitable conditions release the "third force" represented by nitrogen. Unless carbon is available, transformations cannot occur and yet it does not start with the active element but with the passive, that is oxygen. Harnel-Miatznel occurs at the transitions 0-1, 4-5 and 7-8 in the Enneagram. The active element in the transition 4-5 is the fire that cooks the meal, but it is not itself to be eaten.

The Manufacturing Process

When large industrial companies are investigated in terms of input, output and activity, it is found that those that are most successful have evolved a form of organization that is a close approximation to the structure of a living organism. Hitherto, the laws of such structures have not been understood, nor their relevance to industrial organizations sufficiently appreciated. Progress towards a satisfactory form of organization has been painful and uncertain: largely a matter of survival of the fittest, for companies which fail to adapt themselves to the basic laws—albeit unconsciously-come to grief.

The living organism is a relationship of three sources of life and activity: food, air and sense impressions. Through this triple intake the animal maintains itself and its external activity and, strangely enough, there are no other channels of communication between the animal and its world. A factory depends upon a similar well-regulated intake from three distinct sources. These are (1) Managerial direction of the company as *maker.* (2) Raw materials for *product* and (3) Demand from the public as *user.* Whatever transformations may go on within the factory, the success or failure of the operations depends upon the output of saleable products. This is the criterion of intelligent management. It is also the criterion of successful purchasing of raw materials and accessories and the effectiveness of design and engineering planning. Again, it is the test of the market. These three requirements set in motion three

streams of activities that should blend and support one another and yet remain distinct.

This is represented in the symbol of the enneagram by the three points of the triangle, thus:

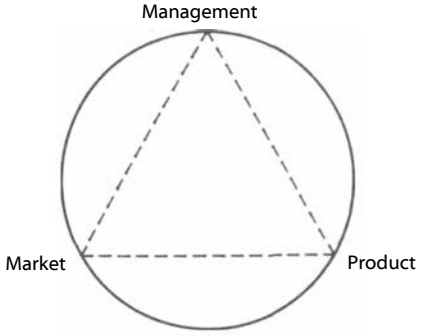


Fig. 9 / TRIAD OF MANUFACTURING

The first stream is initiated by the decision taken by the management that a new product will be introduced. This stream must be followed through all stages right to the point at which the product is successfully taken up by the public. Since the responsibility lies with the management, this first stream will be called that *of Managerial Direction.* The second stream starts with the raw materials and leads up to the product as it is sold and used. It will be called the *Product* stream. The third begins with the public, and its terminus is the establishment of a satisfactory market. It will be called the *Market* stream.

We must now turn our attention to the successive stages by which the complex operations are carried out. In every factory, the transition is from a lower to a higher degree of organization. In a fully integrated company, the intake is of raw materials which may even be minerals and fuel only. The product may be an artifact, a service or an activity: in all cases it is the result of processes of transformation and organization directed by a plan or policy. In considering a new company which is in course of establishing itself on the

strength of its idea of what it intends ultimately to do, there are three kinds of activity to be conducted in order to produce an integrated successful operation from the initial vague ideas, uncoordinated materials and a market that has not yet accepted its entry into the field of supply.

The first requirement is that the management should be clear as to what it intends to achieve. Secondly, it must clarify the procedures it will follow and thirdly, it must put these procedures successfully into operation.

For this to happen, there must be a high potential at the initial stage; that is, there must be not only a strong driving force to get the product moving, but also some powerful and usually novel idea, without which the company cannot impress itself upon its public. This initiates a cycle leading to successful marketing of the product.

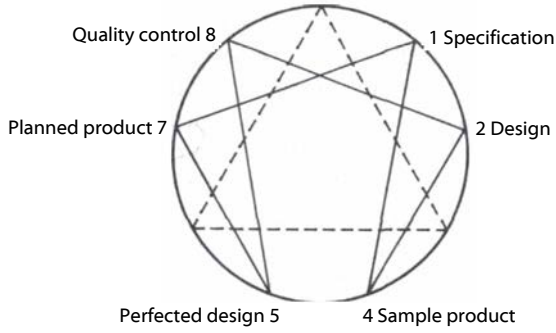


Fig. 10 / THE CYCLE OF MANUFACTURING

The cycle so defined is represented on the enneagram by the six-sided figure. This is to be read in the order 1-4-2-8-5-7, and returns again to 1 and repeats itself as a continuing cycle. It is not sufficient that there should be the drive and the idea: but there has also to be a wide experience of the operations to be undertaken. Only then can the initial purposes, the requirements and standards of the user be kept in view in the consciousness of the management without losing sight of the limitations and characteristic of

the product and its relationship to manufacturing facilities on the one hand and the potential market on the other. This vision will condition all the activities of the company.

The stream of managerial direction passes through the six points in a different order from that of the actual operations. We shall start therefore by considering the latter as they apply to the development of a new product.

The first step is the initiating decision to enter a particular market with a particular product. This is usually known as issuing a *Specification.* Sometimes this is in the form of a verbal description of the thing that is to be made, but usually it is much more elaborate and includes a realistic model of the product. The specification should comprise as complete a description as possible of all the characteristics, functions and qualities that the product must satisfy. It is in this specification that the management embodies the quality upon which the appeal of the product to the public will depend. It includes such information as cost and selling price, and also the important matter of the date by which the product must be ready for sale to the public. Without this latter information, those working on the development will not know how to arrange their efforts by reference to a timetable. The rate of production will also be defined at this stage in order that those who have ultimately to arrange for it will know what means and equipment have to be provided.

The issuing of a specification constitutes the start of the process, and it also establishes the law which will guide those responsible for the subsequent stages. With the specification, the first stage has been taken from the idea to its materialization.

When the specification has been completed everything that can be done directly by the Board of Directors is finished, and a new form of activity must be started in order to make progress. This second necessary activity is called *Design.* Clearly there can be no design without a specification from which to work, but design itself involves the introduction of quite new factors, including those connected with availability of materials and the demands of the public. This is the third stage of development.

The design involves in most cases experiment, calculation and research, culminating in the drawing of each individual part, so that the exact characteristics of the final product can be assessed. There are special skills involved at this stage that can be described under the general title craftsmanship. Without craftsmanship, design will be artificial and inevitably fail in its object. On the other hand, the craftsmanship is helpless without the technology of design.

When a company designs its product, it incorporates into the design as completely as possible all that has been written into the specification. In making drawings of all the separate parts of the product, the department concerned must envisage the conversion of each drawing into a mechanical part, the combination of all of which will constitute the first sample of the product. The making of the sample brings us to the contact between the stream of the management and the stream of materials. The work is done in what is known as the engineering department of a manufacturing organization. Because of the triad, maker-thing-user, it is essential that the engineering department should never lose sight of the fact that the ultimate and indeed the sole reason for its existence is to enable all the arrangements to be made for the mass production of the product.

At this point, we must return to the enneagram and consider the significance of the point 3 of the triangle of "input." The materials required for production begin to influence the process at this point, and this initiates the Stream of the Product. From this point onward the managerial direction and product development go hand in hand. That is why the stream of managerial control goes in the order 1-4-2 and not 1-2-3-4. The management does not take decisions regarding design until the *Sample Product* is available to verify or disprove the feasibility of carrying out the specification.

The activity of the company at this stage is in the hands of the engineering department, which deals with materials as well as ideas. It is the task of the engineering department at this third stage to achieve the maximum degree of certainty that the drawings which it constructs

are exact symbols of what is required for the product as a whole and for each of its individual parts down to the smallest detail. This cannot, however, be ascertained without serious risk of error unless an actual sample is made. This is why the test and development is performed upon samples which are produced only after the engineering department has completed its work. It is obvious that the diverse drawings cannot be tested and developed, but it is also obvious that the sample itself cannot be made until the drawings have passed from the stage of tentative layout to the most exact and detailed embodiment of the specification that can be achieved.

What the management really needs is an agreed set of drawings that it knows are right. It can know this only by making, testing and modifying samples according to the specification. When the perfected sample has been made and tested, then all the drawings have to be made again in accordance with the changes that have been introduced into it in order to achieve a perfected sample. It is only at this point that it can be said that a *Perfected Design* has been reached. The intelligence with which this part of the process is carried out is perhaps the most important factor for the future success of the company. Sometimes it is badly done and the manufacturing organization which is otherwise highly competent gets into serious trouble through attempting to produce from an untried design.

It is only by making an actual sample and working on it in the right way that the management can convert its original imperfect design into a perfected design. The point here is that this work cannot be done except by an independent assessment which effectively represents the point of view of those responsible for the actual manufacturing process, that is to say, it cannot be made in terms of engineering skill but of manufacturing experience.

Nevertheless, without the first imperfect sample product, those responsible for testing cannot make progress to a perfected design. It is the interplay of the two streams that makes progress possible. This in a very striking way parallels the transformation of food in the animal organism which at a certain point depends upon the interaction

between the oxygen and the content of the venous blood. Here the air is analogous to the material that is drawn in for transformation into the finished product.

At this stage the two streams begin to flow in parallel but they do not lose their identity. The perfected design and the perfected sample are quite distinct. They are the responsibility of different departments having different contacts with the basic relationship of maker—product-user.

Going forward in parallel, the perfected sample and the perfected design enable the engineers to bring forward a *Planned Product.* There seems, at first, no reason why the management should not proceed from planning straight to manufacture. It is obviously within their power to do so, and there are no natural obstacles to this movement in the stream of the managerial function. There is, however, a serious obstacle in the stream of the product itself. This consists in the change that is involved, and the new factors that enter, when changing over from single units to large scale production. There is an inevitable uncertainty in the realization of any human plan. No one knows if it will have the intended result until it has been tried. The best plans are always found to be more or less imperfect, and to ignore the resulting uncertainty is bound to lead to trouble, and mass-produced trouble is invariably expensive. A grossly imperfect mass-produced article sold to the public is obviously against the interests of all three members of the triad maker-product-user. To avoid this kind of trouble, the more experienced companies do not proceed with mass-production until samples of the product have been made from the planned manufacturing methods and equipment, and these samples have been compared with the perfected engineering sample and found to be identical in every significant respect. If comparison shows faults in the product, the planning arrangements are modified or perfected until the samples are identical. There is no other way of making reasonably sure that the product when produced on a large scale will conform to the requirements of the user which were originally incorporated by the management in its specification. A very high level of intelligence is required

to enable the management to make a correct decision at this point. The need for revenue from sales is a harsh incentive to act on the assumption that the planned and tested product will be satisfactory. This urgency should at least be convincing evidence that the perfected sample must be as near as is humanly possible to the mass-produced article that is to come off the production lines. One of the most devastating causes of trouble to managements arises when the planned product and the mass-produced article are intentionally made different in some important respect from the perfected sample. This has been done times without number, and trouble always results. Engineers always issue warnings of the danger, but it can only be clear from the systematics that it is fundamentally wrong, since it cuts out one of the independent terms required for a complete hexad. To mass produce a large number of identical articles on the basis of potentiality alone is a procedure that nature never adopts, and as we have said earlier the best organized companies are those which conform most closely to the laws of nature.

When the best intentions exist for making the mass-produced product and the perfected sample identical, there remain in the development of the process itself many occasions when variations and deviations are bound to enter. The factory has to deal with large quantities of material coming perhaps from many parts of the world. It has to employ large numbers of men whose psychological attitude and technical skill cannot be guaranteed. When important new methods of production are being introduced, each pair of these factors, which refers back to the tetrad, produce their own reciprocal actions. Only by taking active and positive precautions, equivalent to the introduction of a completely independent term, can the transition from the planned product to mass production be undertaken with reasonable hope of avoiding trouble.

This independent sixth term is called *Inspection,* or quality control. The process of development is now at its final stage. At this point the interest of the user begins to exert a decisive influence upon decisions. This corresponds to the third stream initiated at the point 5 of the Ennea-

gram. Once this stream enters, it must receive equal weight in all decisions with those of managerial direction and product development. It is of particular importance to ensure that inspection is in no way subordinated to the interests of management and production. Inspection is in effect looking back upon the process from the standpoint of the user as he will see it when it is being distributed in large numbers. The qualities required in order to make this inspection really effective are different from those of testing and evaluation.

Inspection or quality control is far more than examination of the product to ensure that it conforms with the perfected sample. It must take into account all the possible variations that occur within a large number of units, nominally identical. It is notorious that out of 100,000 motor cars or refrigerators there will be variations that must be controlled, if damaging criticisms are to be avoided. Only when the public itself has had the opportunity of testing the product upon a large scale, does the inspection attain the full degree of independence that is required for the completion of the project.

The third stream thus properly begins with the inspection and continues as quality control, throughout the time that the article is being produced and sold, and even afterwards until it is finally withdrawn from use. At this stage, the relatedness of the three streams becomes apparent. The success of the whole process now shows itself in the effective linkage between the original intention of the management and the critical demands of the market. In a sense, the sales organization should become the representative of the user interest. It feeds back into the management information as to its requirements in relation to quality and output time, all of which reacts directly upon the manufacturing activity.

Another connection between the streams is that between the specification and the mass-produced product. The management requires to know that its manufacturing policy is in fact being implemented and has not got out of hand owing to technical and distribution factors. There is a reciprocal action whereby the user feeds back to the

management a chaotic array of demands which lead to the formulation of a fresh specification intended to satisfy them. The action of the user stream influences the management directly and the product only indirectly.

We are now in a position to consider the three forms in which materials and energy are taken into the organization. The food that enters through management is *capital* in the form of plant and equipment, money and accumulated experience. Capital as material resources alone cannot initiate a creative stream, but only capital taking shape as an idea and issuing as a specification. The capital itself is available in the form of buildings, machinery, equipment and materials, all of which are in a constant state of transformation. The transition from specification to design requires an investment of capital and all stages in the process up to the commencement of production is a form of investment. The second stream is visibly present in the form of raw materials, energy and bought-in components. All this is, however, useless except insofar as it is intelligently handled. The first imperfect sample has to be made and worked upon before the material stream can begin to flow. This making and being worked upon is what the design needs in order to be transformed, and this it receives from the brains and hands of men. They supply the craftsmanship and skill which effect the transmutation of raw materials to a higher state of organization. Just as the body transforms the crude food into the highly complex proteins and active substances required for its own successful activity, so is the labor force the medium of transformation from raw material to marketable product.

From the moment that work on the material begins, *craftsmanship* permeates the whole process. In a mass-production organization an attempt is usually made to carry the development by the engineering department from design to perfected sample in a mechanical way, in other words to replace the skill of brain and hand by the perfection of machinery and arrangements. In this way something is irrevocably lost.

The most important change now coming over mass-production organizations is the recognition of the impor-

tance of craftsmanship at this stage. In this way, the notion of repetitive craftsmanship of earlier forms of production, is being replaced by the preparatory craftsmanship which alone can produce articles having a living quality. Closely connected with this transformation, is the progress of automation which virtually eliminates craftsmanship from the repetitive stage, but calls for a greatly increased deployment of skill of brain and hand in the preparatory stages from specification to a perfected product.

The third stream is more difficult to define than the other two. It is easily recognized in market research, service reports and sales results, but these are only the external forms. The real significance of the third stream is the stimulation it provides for a more intelligent appreciation of the *degree of perfection* to which the product must be raised if it is to be a complete success. This activity can be compared with the effect of sensations upon a living organism. These arouse all kinds of reflex responses that in their totality enable the urge of life to express itself. The interest of the user is largely a matter of sensation leading to the satisfaction of the needs of body, mind and feelings. This communicates itself to the production organization in the form of a whole range of demands for satisfaction. The degree of intelligence with which these chaotic demands are brought into relationship with a particular mechanical device, determines the vitality of the manufacturing company, and its potentiality for growth.

This leads us, finally, to the integration of the entire process into the social life and history of mankind. Although manufacturing can be isolated from other human activities, it has in the long run to find its place in the totality of human society. This requires new and independent factors that cannot be reduced to terms of maker and user or technologies of design. These wider issues are aesthetic and moral. The company becomes an integral part of society, having its own individuality. As such it is responsible towards the totality of human experience. When represented on the enneagram, this leads back to the point 9, which stands for management as the vehicle of the company's will to serve the community. It is also the

starting point for another cycle which is that of the *History of the Company.* A company has, in the objective sense, a history only when it is an independent individual not only technically and commercially efficient, but socially and morally conscious of its powers and responsibilities.

Man as a Transformer of Energy

When is it possible to use this symbol as an instrument of understanding and interpretation? Is it possible to apply the Enneagram to any and every kind of situation? Certainly not so. It is applicable only to situations that have a structure which allows the three different kinds of processes to act upon one another. To those which have this special form, Gurdjieff gives the name *Cosmos.* Cosmos does not just mean something which is ordered, it means that which is ordered and organized in a purposeful way. The Enneagram is the symbol of a cosmos and it can be used for interpreting situations which are cosmoses or those which have a cosmic structure. One way in which a cosmos can be described is to say that it is a self-contained, self-acting entity within this world. It has a certain degree of independence, and is able to have this independence for no other reason than that it is working through the combination of three processes. A kitchen engaged in cooking is a cosmos. It is a very good cosmic model and by assimilating into yourself the process by which the nourishment of a community is maintained, you will have a very good means of acquiring an intuitive grasp of what a cosmos means.

The first cosmos that Man should study is himself. Just as with the kitchen, there are three independent sources. There are three ways in which we are in contact with the world and it is useful to stop and reflect on these three. We are obviously in contact with the world through our senses and in the ordinary way one would say that that is our

whole contact. It is through seeing, hearing, touching and smelling that we relate ourselves to the world. But what about breathing? That is by no means so obvious. If you remember that Gurdjieff so often likes to speak of "breathing creatures," "other breathing creatures like ourselves" and "all breathing creatures," it is clear that for him, the significance of breath is never far away. Breath is a way in which we are in communication with the world. It is not simply that without breath we die. There is also a hidden role of breath, in which the air is the carrier of finer substances. This is something the ordinary scientific account of breath does not notice. Breath has the power to change the energies in us and it is possible with breath to regulate our emotional states very simply. But this still does not tell us all that there is to say about breath. Gurdjieff says that there are in the air substances that originate from our own planet, from the other planets of our solar system and from the sun. All these substances are necessary to us. From them is derived the nourishment for the higher bodies in Man.

We know that as we sit here in this room we are all breathing the same air and some part of the air that is entering me has entered all of you. We are all exchanging the air that we breathe the whole time. We do not notice this because we are not sensitive to air, but even without going beyond that which we can tell from our own experience, we know that the air is itself a medium by which we are in touch with the world, with other people and with other forms of life. Also we can at least grasp the idea that there are much deeper changes than in the simple exchange of air entering and leaving us. These happen in the air according to the state and level of being of the person who breathes.

Thirdly, there is the food we eat. This food brings us into contact with the world in a quite different way from the other two sources. The food we eat is a sharing of life. We are in contact with life-force through the food we eat. There is no inner contact with anything more passive than food such as substances like wood or stone which cannot be digested. We are in contact with them only through what we see and touch, but not with their own being as we are with

the food which we assimilate into ourselves or the air which we breathe. By reflecting on all that, and it needs a lot of reflection, one can have a feeling of what our cosmic nature is. When eating meals it is particularly useful to be aware of how these three points of contact with the world are present in us, perhaps even to see what it really means that there is no other contact than these: no other exchange or commerce with the world except through our senses, the air we breathe and the food we eat. This is one characteristic of a cosmos: that it has this threefold contact with other modes of existence other than itself, with other cosmoses similar to it, as we people have contact with one another and with other cosmic forms, such as other forms of life or with the planets and the stars. When we enter into detailed study of the transformation of man as we did for the kitchen and we ask what happens in this cosmos so that existence can be maintained and what work is required to be done by it and how it can serve the purpose of its existence, then we shall see the process working.

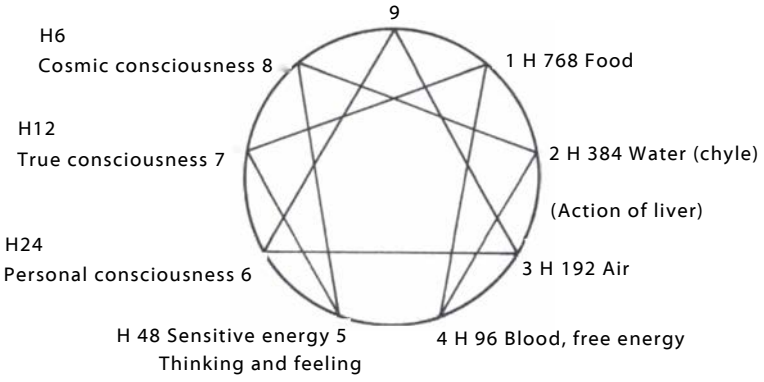


Fig 11 / FOOD ENNEAGRAM

According to Gurdjieffs classification into twelve categories of substances starting with formless matter H 3702, the food we eat is H 768. When it enters into the body and has passed through the outer membrane it becomes H 384.

It then has the density of vibration, as he says, of water. It goes through transformation in the liver and acquires the density of air. It then enters into the blood and acquires the density of fire, free energy or electrical energy. When it passes the middle line, between points four and five, it enters the domain of spiritualization. At point five, it has the qualities of experience that we call thought and feeling. In the next stage, it takes on the property of being experienced as itself as well as giving experience of the world that I refer to as 'sensitive energy.' This state of personal consciousness, H 24, gives one the power, for example, of knowing that one is thinking and not just thinking automatically. At point seven, H 12, there is what I call real consciousness, or an awareness of "I." H 12 is not restricted to the personal focus of H 24. H 6, point eight, is still more unrestricted, passing beyond the boundaries of all existence.

On the right hand side of the diagram is the blood circulation and, on the left, are the nervous system and the ductless glands. Between H 384 and H 192, the bloodstream passing through the liver acts on the food. Thus, between points two and three is the alimentary system. At H 192, air enters as a second *do* and, at point six, H 24 plays an analogous role, sometimes referred to as *impressions.*

You can learn all this from text books and it is possible for anyone with an elementary knowledge of physiology to put it together for himself. There are certain interesting points to investigate such as the meaning of the line from 2 to 8. How is it that at point 2 we are looking at both the next stage of transformation and at the final stage of transformation? This is a pertinent question of the kind that the Enneagram helps one to ask.

The main point is that there is an overall unity of the organism, an inner direction, an instinctive master or regulator responsible for maintaining all the extraordinary equilibria and changes of the body. It keeps the blood temperature, acidity and the various chemical substances in the blood balanced and it maintains the tone of the nervous system. There are an extraordinary number of balances, each of which itself requires to be adjusted

because when one thing requires to be compensated it is probably at the expense of something else. Studying this you can see that there is a very high intelligence at work somewhere which is taking care of this balance in the state of health of the body. The secret of homeopathic medicine lies in the presence of this intelligence which maintains the balance of health in the body. The effect of such medicine is to communicate directly with the point 8 so that the body can do its own work more intelligently than a doctor can. this is the meaning of the line from 2 to 8 and it concerns this first food of the body. The first food of the body is the raw material for maintaining the whole body-equilibrium.

From 8 there is the triad 8-5-7; that is all concerned with experience. From it you can see where we are able to produce the energy required. The shock must enter the triad 8-5-7. Making use of the passivity of the automatic energy we are able to act upon it with our own intelligence so that we can keep up our level of consciousness and freedom in relation to the environment. All this is written up in *In Search of the Miraculous** and other books. There are some difficult points which we encountered when we were studying all this in the 1930's, with several doctors and physiologists. This was because we were looking at the left hand side too much in physiological terms, not realizing that at that stage we were dealing with psychological transformations and not physiological ones.

In Search of the Miraculous, P.D. Ouspenaky, Routledge a

The Realization of Beauty

We shall take a concrete example of the realization of beauty in sound. The particular case will be that of the training of a professional singer. The process divides without difficulty into three parts corresponding to the terms of the triad.

Receptive term - Contingency - the accident of a good natural *voice.*

Reconciling term — Hope — *training* directed towards an aim not at first clear.

Affirming term - Transcendence - the *Art* of Music as a value beyond the person.

We shall trace the development of the three terms with the help of the Enneagram symbol. We have:

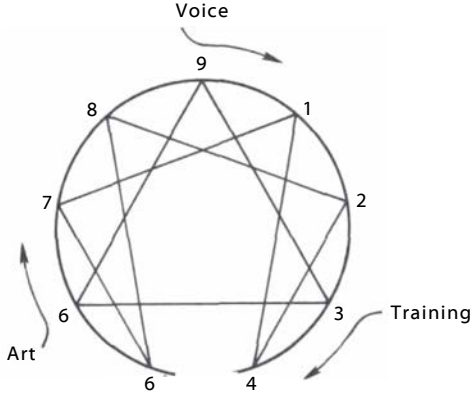


Fig 12 / THE REALIZATION OF BEAUTY

Receptive Process—the Voice. This is an accident. So is the combination of conditions that make it possible for the voice to be trained. We are before the Value of *Contingency.*

Reconciling Process—the Training. This starts with no fixed objective but with a sense of possibility. The teacher at first is there merely to teach. Only later does the teacher accept the pupil. The personal element thus starts from the Value of *Hope.*

Affirmative Process—the Art. Beyond the understanding of either pupil or teacher is the integrity of the musical art. Nevertheless, this is what draws them both on to seek for the ideal. The value is that of *Transcendence.*

The First Process - The Voice

Initial Step. The process starts with the growing awareness of the girl that she has a "promising voice." She sings for her own pleasure, but neither knows how to sing nor does she recognize *quality* in sound. Her parents observe that she has a voice. Friends suggest that the "child should be properly taught." Vague and fanciful stimulations combine to produce the picture of the girl as a future prima donna or famous film star. Inconclusive proposals and wearisome discussions finally lead to an audition by a recommended teacher. At this point, the goal seems nearer than the first step.

Stage One. We now enter the enneagram at point 1. The girl is given a series of trial lessons. The teacher tests her capacity for work and her natural taste and understanding of music. She thinks she is making progress but nothing has yet changed for her. The decision of the teacher to accept her as a pupil does not turn upon what she can do now, but upon whether he sees a prospect that she will take the work seriously. Looking at the enneagram, we see that the teacher goes from 1 to 4 before he allows the pupil to go from 1 to 2. In doing this he enters the enneagram at the point 3 and the second process is initiated.

Stage Two. Acceptance of the Pupil. The plan of action is decided. The family agrees to foot the bill. The teacher

has yet to make the girl realize what it means to produce a sound intentionally and consciously. It is only when she begins to see for herself what it means to work at singing, as distinct from singing for pleasure, that the process of learning really gets under way.

In the beginning, her very progress appears to be a set-back. Spontaneity has gone. There are no more "songs," no pretence at doing the great arias for her voice; but exercises, practice and repetition are now given form in the particular method followed by the teacher. This is how the teacher feeds back from 4 to 2. We have the first half of the six-pointed figure:

1. The Voice.
4. The Work.
2. The Method.

This stage may continue for a long time, and is bound to lead to phases of bewilderment, discouragement and even doubt in the teacher as well as to phases of progress and hope. A definite feature of this stage is the complete dependence on the teacher. The girl's ear is not trained nor has her taste developed. She cannot yet recognize when she has produced a true sound.

Stage Three. When the girl first begins to hear her own voice and is able to criticize herself, she enters the third stage represented by the number 4 in the symbol. The teacher has also made a step now. That which he had foreseen as merely possible—in the Value term of Hope—is now beginning to appear. The girl finds that she can work. At first, she has no more than momentary glimpses - a single phrase sung with full awareness that it is as it should be. Henceforward, all other singing compared with that, will appear cheap and meaningless. As the experience begins to come more often, she also becomes aware that she does not know how it is done. Nothing that either she or her teacher can do at this stage will help her. She knows, for the first time, what the art of singing can be, but it is beyond her to achieve it.

The Second Process - The Training

Our attention now returns to the teacher. At this point, everything depends upon his *integrity.* The student may be on the point of abandoning her studies or she may wish unconsciously to deceive herself that she has gone forward. The teacher is tempted to make things easy. He can show her tricks for producing beautiful sounds without knowing how. If he is lacking in either taste or scruples, he will encourage her in the belief that she can overcome her difficulties, and is on the way to becoming a singer who can appear before the public.

If the teacher is honest and knows his business, he must return to stage two (point 2 on the symbol) and from there look ahead and make an assessment of what the voice can really become (point 8). Only with this prevision can he take his pupil on to point 5. Thus the enneagram shows us the two paths - one of realization in time (1-2-3-4-5), the other of the eternal pattern (1-4-2-8-5). As in the example of the kitchen already examined in Chapter 3, the ground is now prepared for the stage of real progress.

Stage Four. This corresponds to the moment when the food is put into the oven to cook. It is the stage of maximum distress. The fifth point is always that of greatest tension.* The repeated effort to make true sounds does not yet give control; but it does show the pupil how she must work. She begins to feel the proximity of the third process - the Art of Singing - and she must make sacrifices: of her own vanity, of her independence, her self-will and even of the beliefs she has acquired as to what sounds are and what music really means in the life of man.

At this stage, she acquires respect for her own work. It is no longer to satisfy herself alone, but to serve her art, that she puts out her efforts.

Now we must go back to the teacher. At this stage his role again changes. He no longer can do it all by himself.

*Gurdjieff *All and Everything* p. 754. There it is referred to as the "Harnel-Aoot."

The pupil must hear good singing. She must mix with real artists. If he insists jealously in keeping her to himself, he fails to make the step in his own work. For him, also, there is a stage of self-doubting and helplessness. He must turn to the art and re-awaken in himself the sense of awe and wonder that the true musical sound arouses. In short, he must come into intimate contact with the third process which enters at the third point of the triangle-point 6 in the symbol.

The Third Process- The Musical Art

Music is not a thing in itself, but an experience and an activity. The musical art is inspired by an ideal-independent of place and time-that is *the per feet sound.* Although the ideal is timeless and eternal, its realization is not. Of all the arts, music probably comes nearest to the determining condition of hyparxis.* Its power is in the vibrations of sound, in rhythm and in the melodic transformations - all of which are based upon recurrence. In past ages, men have again and again sought in music for the secret of the heavens. Lacking in objectivity and imperfect though their researches may have been, there was and will always be a core of truth in this search. Music, as the beauty of sound, proceeds from a transcendental affirmation that is beyond all selfhood. Music in nature does not differ, in any essential way, from music in art. The thrush and the nightingale, the bull, the stallion and the lion are all artists re-creating in sound the cosmic affirmation which brought them into existence. From the time that earth first received its atmo-

*A third kind of "time" which is distinct from both ordinary time and "eternity." Ordinary time is the condition of the ever-changing. Eternity is the condition of the ever unchanging. Hyparxis is the "return" of the unchanging in the changing. Therefore it is like vibration and rhythm and music is a symbol of it. The "hyparchic dimension" of a man is a measure of how much he is *able to be himself* in the midst of life, activities, experiences and so on.

sphere, the music of wind and waves was there, a thousand million years before life had ears to hear it.

No such musings may enter the minds of teacher and pupil, and yet the Transcendent Beauty of Music is there to lead them on and also to unite them. The immediate impact of the Art of Music must be on the teacher. His is the responsibility for ensuring that she will awaken to its call. Then they go on to the next stage together.

It is a very remarkable property of the enneagram that the only step which coincides with time and eternity - that is on the way round the circle and by way of the six-pointed figure-is that from stage four to stage five. As they move, the Art of Music moves with them; it has received one more soul within its hallowed precincts. This is how the art lives and moves on, and this also is how it conquers time. It touches the little drama of the girl's singing lessons lightly with the touch of a feather from its wing. It moves on; but the situation is transformed.

Stage Five. Outwardly there is no spectacular transformation. The work goes on, but the motivation has changed. Music is now the master, and the teacher is only the elder brother who has trod that path before. The "art of singing," hitherto no more than an empty phrase or the expression of an emotional attitude, is now a significant reality. And yet the art remains something beyond and unattainable. There is nothing for it but more hard work and the rare moments of truth.

Gradually there emerges in the consciousness of the singer a clear understanding of her own limitations. She begins to see for herself what she will be able to attain. Gone is the spontaneous satisfaction of producing sounds subjectively pleasing but objectively false. Far, far away is the prospect of attaining the true spontaneity of the master of the art. The art has now acquired a holy quality, and she knows what it is to be wedded to the Muse. She now faces a new commitment. Her singing cannot be for herself alone. She has learned how to sing, but knows only too well that she cannot sing. She can no longer go forward by study alone. She must profess music and share it with others. To remain an amateur is to be untrue to the art.

We are now at the point 7 of the enneagram. As we said before, the art of music has gained a new soul. The teacher has nearly accomplished the task he undertook. The singer can measure her strength and her weakness; she knows her power and how to use it. But she must live through the anguish of exposing her weakness and her strength together to the merciless judgment of the world. This stage is fraught with many perils. She knows enough to hold her own — her technique and her voice will carry her through - but only the Art of Music can take her into the inner circle of those few musicians who are artists first and singers second.

Stage Six. For the artist, this is the completion of her transformation. What was initially a mere fact - a natural voice—has now become a value - the beauty of a song. External conditions no longer matter; spontaneity has returned. She knows Joy in her art, Serenity in her conscience as artist, and Fulfillment in the purpose of her life. These three are the triad of Truth. She now sees Truth as the goal of her endeavour. Even Beauty is now but the ground from which she must rise. Since Truth is for ever unattainable for the finite soul, the quest turns into the longing for the Supreme Value. New hopes and new sufferings enter her life. The moments of Truth-even relative Truth-come rarely. The world does not know her struggles nor why she must work as she does. The invisible, soundless beauty of Truth draws her on and she knows not whither she is bound. A new cycle that must be represented by a new enneagram begins. It is the cycle of her Search for the Soul. Here then we must leave her and return to her teacher.

At the point 8 teacher and pupil part company. He returns to the starting point 1 to begin again the cycle of teaching, when he can find a pupil who may be capable of making the step from 1 to 2, that is to say of accepting the task of working for her art.

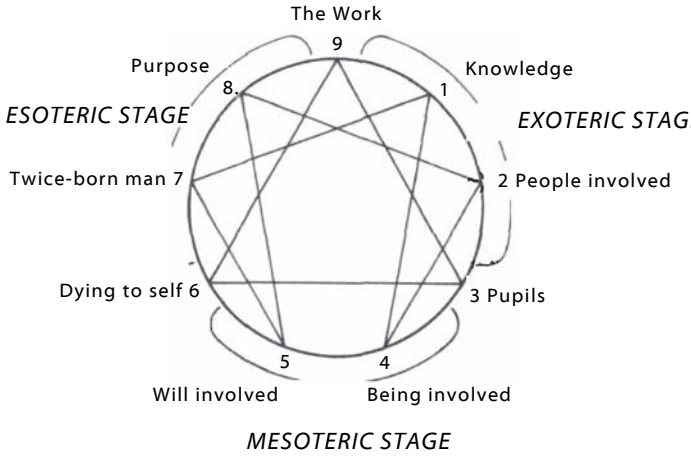
The third process has passed through two stages only: the vocation of the student to her art, and the contribution she makes in her profession to the art of singing. If it is to go further in her company, she will enter upon a cycle of creative activity leaving behind her an enduring legacy.

Such activity goes beyond the person of a single artist, for it concerns the World of Music in which all men consciously or unconsciously have their place.

The Transformation of Man

Having examined man's foods, we must examine a rarely explored facet, which is for us the most important. Can the Enneagram help us to understand the cosmic transformation of Man himself? By "cosmic" we mean not just his inner process but the role that he can play in the work of transformation in the world? Let us first picture to ourselves that there is something like a kitchen which has to produce for this world, for life on earth and perhaps for the whole solar system, something which corresponds to a meal. We can also suppose that we people are involved in the process. There are arrangements, organizations or places equipped for carrying out this operation, as a kitchen is, or as the human body is for our own transformation. In a general way we call these places schools. They provide the conditions, the means and the equipment. It is possible to make an analogy on the model of the kitchen with all the things which are required in a school. Some people call it an esoteric school but the simple word *school* is the one I shall use for this.

At the point 1 is something we call "school." There is something else that we call "the seeker" and there is also what we call "the Work." All those have some meaning for us when we talk about them. Now we ask ourselves what happens with the connecting lines? The circle is divided into three parts by the triangle and the lines connecting the points 1-4-2-8-5-7. Before when we looked at the kitchen, we saw that points 1 and 2 were concerned with setting up the



Fie 13 / TRANSFORMATION OF MAN

conditions which were going to make the meal possible, points 4 and 5 were the action on the meal, the conversion of raw material into cooked food, and points 7 and 8 were the presentation and eating. Now that we are talking about school work we have got names for these three stages. We call the first, the *exoteric* stage, the second the *mesoteric,* and the third the *esoteric.* In the exoteric stage, nothing really happens to the seeker. Point 1, the note *re,* is concerned with the "what," that is, just the acquiring of knowledge. It is the kind of thing that happens when people read books or when they come and are taught things but have not yet really begun to involve themselves. It is really teaching on the outside. The second stage occurs when they are taught "how" to do it, when they begin to discriminate and are shown what to do and when. This is why you have in this case the 14-2. Point 4 represents the stage when the work is beginning to enter into people and something actually happens to them, when they are no longer experimenting or trying things but have committed themselves to letting something happen to them. It is with that in mind that they learn "how" to do things. This is why, from the point of view of the overseer, the master, the teacher or whoever it is, the thing is looked at in the order, 1,4,2. From

the point of view of the process it goes 1,2... and then comes the real entry. Entry to the school comes when there is an actual involvement. This helps to explain the saying that work does not begin on the level of ordinary life, that something has to happen before it can begin.

You do not enter into a school merely by being there and hearing and learning. You are in the school when the action begins in you, when you begin to have dead leaves cut away, surplus fat removed and all the things that the cooks do when the meal is being got ready. It should be quite possible to visualize and see how this is so and see how often people are mistaken by thinking that they are in a school, or that they have some connection, when in fact they are still on the outside. In the exoteric stage, that is points 1 and 2, it is possible to come and go unscathed, untouched. People sometimes do this: they think that something has happened but sooner or later it becomes obvious that it has not. It is necessary that there should be that kind of working, for in one way this is the means by which the school itself tunes up. It cannot begin its work from the mesoteric stage; but if it never goes beyond the first two points, then it is never in the true sense a school.

So this second Do, the one at point three, represents a certain involvement. Another way of putting that is to say that it then begins to be connected to "being"; the Work begins to touch the being of those who enter into it. At points 1 and 2 it touches their knowledge; not just mind knowledge or intellectual knowledge, for they may learn various techniques, exercises, meditations and physical work, but it is still knowing only and, as I have said before, people can deceive themselves into supposing that work which is really only for knowledge is work for being. Then they remain stuck. When this happens the Work loses its direction, no cosmic situation is set up and there is no real school. The beginning of a real school comes only when there is an involvement which is going to change the being of those concerned and this also changes the nature of the school itself.

The school must have an *aim.* This is represented by the line 2 to 8 as it is in all these cases. As the activity of the

school takes shape in the awareness of its members, it becomes apparent in that its purpose is to serve. The purpose which it is to serve is represented by the point 8. That is why there is always, in every cosmic situation, a need to understand what the line from 2 to 8 represents.

What is the difference between points 4 and 5? The real difference is that 5 concerns Will as well as Being. The cooking comes in here and in this case the fire represents suffering. Only if the pupils are prepared to go from the stage of effort to the stage of suffering can they go from 4 to 5. What is it that makes this suffering possible? It is the glimpse of the *end,* the first understanding of what it is we are working for, that is the connection between 8 and 5. Between 2 and 8, the connection is in the mind of the teacher. Between 8 and 5 it is already entering into the awareness of the pupil.

Now what is this third *do,* labelled here "the Work"? This represents the change over when the Work begins to work within, when the unconditional begins to work within the conditional or the spiritual within the psychological. This transition to the esoteric stage comes with surrender, or acceptance. The esoteric stage, the transition through the point 5, is really dying. It is the death and resurrection that takes place in going from 5 to 7. At the point 7 the new man is born. It can be said that at the point 5 he acquires his second body but at the point 6 he acquires his third body. That is putting it in a very complete way.

The following are answers to questions:

One can say that conscious shock corresponds to the three phases of the Work, the exoteric, the mesoteric and esoteric. Now you must understand this peculiar property of the Enneagram and of cosmoses in general that they can appear in different scales. Gurdjieff used the word "inner octaves" for talking about this, so that one can very easily slip from one scale to another. On the whole I have been talking about the grand scale which is the whole of the working in this world. But it is possible to look at it in a smaller scale in relation to a particular school or even in

relation to particular people, just because of the general law of similitude. I say that because the words exoteric, mesoteric and esoteric can be used in a total, whole way, of the whole working of the transformation in the whole of mankind.

In this time we have together, we have an exoteric, mesoteric and an esoteric phase; some people can be in one, other people in another. Some people have entered into the mesoteric stage of the Work: something has happened to their being. That is something very big and wonderful.

To come to the third stage is a big step because this is truly dying to oneself. It comes only when the Work itself takes possession: when one really accepts not to be any longer one's own master but allows the Work to become one's master. When one can truly separate oneself from one's personality, then the transformation that takes place at point 5 occurs. But when one can put aside one's own will totally, to be entirely the servant of the Work, then the transition from point 5 to 7 takes place. That is where the Work enters as the third shock. In all of us it is that in us which allows the spiritual man or the man of the Work to be born; all that belongs to the esoteric stage of the Work in the full sense. It is then only that the being of a man becomes a source for himself. Then he is a source from which the Work force flows into the world represented by the line from 7 to 1 and completing the cycle. The man who comes to the point 7 in that sense is now himself a source by which this process itself is initiated again, as in the Sufi saying: "By His presence alone Man can be transformed." This third transformation is very interesting because it implies that the Work itself is also being transformed, it is not something fixed or external. It comes into being through the school and through people. The idea of the Work, or the pattern, the program of the Work, what the Work stands for is there, but it is only realized through people. Unless people give it a body it has no place and has no entry. It is through people that it is able to come to the point where it is a manifestation within this world, this particular cosmos of this earth and life on it. So it is through, as they call it in India, the "twice-born" that this work has its being and, those who

may, pass through from point 5 to 7. The extraordinary power of the Enneagram is that it enables one to encompass more different things than we could possibly see with our unaided mind. It does for our inner vision what a telescope will do for our outer vision. Gurdjieff uses this very simile in *Beelzebub's Tales* where he refers to his: "Teskooano or an instrument that brings the visibility of cosmic concentrations seven million times nearer." With its help, if you can take it in and reflect upon it, you will be able to make sense of a vast number of apparently unconnected teachings and events. Everything about the spiritual and religious life of Man can be represented in it.

The Biospheric Symbiosis

The total society of mankind can be understood only by reference to the great symbiosis* of which mankind is a part. This is the Symbiosis of the Biosphere, which is the transitional society between the Autonomic and Hypernomic Worlds.** We stand here before a structure that evidently comprises elements that are still lacking in our human experience. We know that the Biosphere, as a society of living organisms, has existed for many hundreds of millions of years and that it is likely to persist so long as the climatic conditions on the earth's surface continue to be controlled by the interchanges of energy between the atmosphere, the oceans and the outer layer of the crust. There is no apparent reason why this should not continue for another thousand million years.

The Biosphere includes all that is associated with life on the surface of our planet; and here is a situation of prodigious complexity for mankind alone. There are more than three thousand million human beings living at the present time; we cannot estimate the total number of human

*"When it is necessary to take into account the relevances of a Society within a family of Societies in process of interaction and development, we shall speak of a *symbiosis*.. .symbiosis is a society that cannot be understood except by reference to the mutual reliance of its member groups and also by reference to the world process in which it occurs." *The Dramatic Universe,* Vol. Ill, Coombe Springs Press, page 231.

**_Autonomic_ means "under its own laws" and refers to living existence. _Hypernomic_ means "above the laws."

individuals that will live through past and future history. We exist on the earth with many thousands of billions of animals, vertebrate and invertebrate. The whole is interlaced with a network of connections that defies description.

Man is represented by one species and there have probably not been more than three or four species of *hominidae* in the million and a half years of man's existence on earth. Within the total Event that started with the appearance of life on the earth and which will end with its final cessation, humanity occupies, in duration and magnitude, a very small place. The significance of man as a dominant life-form in the Biospheric Symbiosis consists in a task to be performed in the Evolution of life on the earth. With this in mind, we can set up a structure of societies beginning with Individual Man and ending with the Biosphere as a whole. It can be represented by the structure of the three interlocking processes of the enneagram. In the Biospheric Symbiosis, three major processes coalesce into a Grand Cosmic Cycle:

1. The Transformation of Human Selves into Individuals.
2. The Evolution of Humanity.
3. The Spiritualization of the Biosphere.

These three distinct cycles spring from three independent sources. Each of these characterizes a radically distinct kind of society or element of the total symbiosis. The total character of the Biosphere must be a matter of conjecture, but is, no doubt, connected with the role of life as the reconciling element in the Universe.* Life on the earth presents us with a complexity of relevances too immense to be represented by a single structure. Because of this, we will deal only with the *proper* role of mankind in the Biospheric Symbiosis.** As we are dealing with three independent

*The three worlds of materiality (Hyponomic), vitality (Autonomic), and deity (Hypernomic), form a triad in which Life transmits the Reconciling Impulse.

The *history* of life on the earth, including the arising of mind, involves a whole new set of relevancies.

processes, we can make use of our ideas regarding the harmony of the enneagram. Each source or "do" leads into three stages before the need for "blending" arises. These three triplets can be deduced from the nature of the sources.

FIRST TRIPLET	
Initial stage.	The Human Person
Second stage.	The Family
Third stage.	The Clan or Nation
SECOND TRIPLET	
Initial stage.	The Cultural Community or *Civilization*
Second stage.	The Total Human Situation limited in time, the *Epoch*
Third stage.	The Total Human Situation unlimited in time *Humanity*
THIRD TRIPLET	
Initial stage.	Man as a vehicle of *Spiritualization*
Second stage.	The particular form of life in which Spiritualization is concentrated. *Evolving Stem*
Third stage.	Form of Existence dominant in the Biosphere. *Dominant Life-Form*

These nine stages together form nine elements of which three are sources and six are steps. The enneagram has only nine points, but one of these appears twice, as the point of entrance and also the point of exit. This is due to the property of the enneagram of representing cosmic situations in the intransitive dimensions of Space and Eternity and the transitive dimensions of Time and Hyparxis.

The first sequence enters into, beyond the national societies, the international symbiosis, here called the Epoch.*

Epochs are associated with the conscious evolution of mankind, and therefore grow in importance with each

*The theory of Epochs was introduced in the author's *Crisis in Human Affairs,* Hodder & Stoughton, 1948.

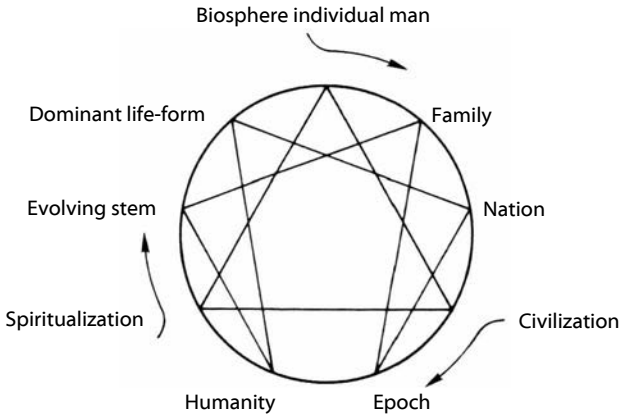


Fig. 14 / THE SOCIETIES OF THE BIOSPHERE

successive stage. The Epochs outlive many generations of mankind - usually their duration is of the order of a hundred generations. Beyond the Epoch is the Humanity at one of the major stages of its evolution. For example, we are now in the stage when humanity is becoming conscious of its own wholeness (One-World-Awareness), but not yet of its role in the Biosphere. When the time comes, a transformed Humanity will begin the task of guiding the evolution of all life on the earth towards its great destiny. At a still later stage, a new Humanity quite unlike the human race as we know it today will set itself to coalesce the soul of the Biosphere.

These speculative prophecies of the very distant future are suggested by the structure of our diagram. At the point where Humanity assumes responsibility for its own evolution, it meets with a new problem: that of the Spiritualization of the Biosphere itself. It will then be seen that human existence has no separate significance and that a prodigious change of attitude towards all life on the earth will have to be accepted if further progress is to be made.

The Evolving Stems of the past have all prepared the way for the next step forward. Thus, mammals have Prepared the way for the coming of man. Humanity will discover its role as an Evolving Stem of the Human Life-

Form that will eventually complete the transformation of life.

In describing the Symbiosis of the Biosphere we will be obliged to look forward into the future. The reason for this is that *Man* is a relatively recent arrival in the Biosphere and has not yet developed the properties that will eventually distinguish him existentially from the animals. We write *existentially,* because in his *essential* nature man has been totally different from the animals since he first appeared on the earth.

The symbiosis we are studying in this section is perceptible in time and space. We cannot observe directly the eternal pattern upon which it is constructed; but we can deduce it on systematic principles. The hyparchic significance* escapes us altogether - in other words, we have no means of answering the question whether the Biospheric Symbiosis corresponds to the Destiny of the Biosphere. If we could know the answer to this question we would know a great deal about the destiny and future of mankind.

At the present time, our interest must necessarily be directed mainly to the societies that are exemplified in our experience.

The Family

The *family* can be taken as the entire field of personal contacts of man and woman. The tendency to weaken family ties that has developed recently is generally agreed to be retrograde. The family society was formerly taken as including three generations. The clan or sept, owning land in common and claiming descent from a common ancestor, gives us a possible upper limit to the authentic bond of family. The extent of a family society can be recognized by the existence of a personal link between its members. A man may never have met or heard of some other member; but he can "place" him by his parentage, dwelling-place or occupation. Thus we can recognize sub-groups of members within a complete family society. They are all kith and kin, but they do not all perform the same function. In the ideal patriarchal society, there are sub-groups working in harmony on the different levels of the selfhood. Some are occupied with

*This is a measure of its contribution to Reality.

material needs, others with satisfactions and others again with teaching and transformation.

Thus, the family is the natural environment in which the existential man develops. Its main influence is upon the four Selves that receive their content mainly from the family. The Personality draws from all sources. It is very probable that a family society shares in a common Fate.

The family also has an essential significance inasmuch as it is to provide the conditions for acquiring disposition and discrimination. This task belongs to its inner life. The family has a symbiotic relevance for the Biosphere as the natural unit of existential humanity. It is with the family that transformations of the human life-form begin.

In all human societies, the family is the prime social force within larger social complexities. The symbiosis of the family leads us directly on to the next stage: the nations.

National Societies

The family is a centrally directed unity. The members share a common heritage that holds them together. The heritage includes consanguinuity, common experiences, possessions held in common, a common language, beliefs and traditions. The pull of these forces is not exhausted when they cease to produce a personal linkage. We can recognize, beyond the limits of the family, societies with a more complex structure, but which are still unified by ties of the same kind. These societies are *nations* or peoples. Such societies have existed on the earth from before recorded history. They are usually held together by geographic boundaries as well as a common heritage; but the latter is the true bond of nationhood. This is verified by observing the ability of nations to preserve their unity in migrating into a new geographical environment. The common heritage usually includes a common language and a marked endogamic tendency.

Although the unity of a nation is mainly existential it always extends over several levels of existence and includes common attitudes towards Value. There can be, for example, national art, national morality and national obligations recognized and shared by the various groups within a national society.

Nations must, of course, be distinguished from *states,* which are instruments for the exercise of authority and do not belong to the natural societies of the biosphere. State governments are seldom coextensive with national societies, although they often claim to base their authority upon the "rights of nations." Modem states often embrace many nations and nations are divided among states. The "state" as an institution is constantly changing in form. It should, ideally, have the structure of a four-term system, for its function is to sustain harmonious cooperation between the four psychostatic sub-groups of the total human society. Political economy, or state-craft, is a part of the general harmony of human societies and it will continue to change as mankind evolves towards structures that will supersede the modem state as it has taken the place of older institutions. This leads us to the role of civilizations.

Civilizations

Civilizations differ from families, clans and nations by their origin and by their function. They are not held together by the centripetal influences of a common origin or economic and vegetative pressures. They usually extend over regions that are geographically dissimilar. Often they embrace many nations living under quite different climatic and economic conditions. Moreover, they arise, develop, flourish, degenerate and are replaced in a manner quite different from families and nations.

Civilizations are also different from the symbioses belonging to the third and fourth stages that embrace the whole human race over a period of time. Civilizations do not belong to the "stages" of human evolution, but are rather channels through which Value-influences enter. They are invisibly associated with the Soul-Stuff Pool,* the state of which they reflect in the visible life of mankind. On this view, civilizations have their origins, neither in the personal needs of man or woman nor in the spiritual pattern of Destiny of the Biosphere, but in the evolutionary urge of mankind as a whole. They are the strivings of the still immature Soul of Man and they mark a stage in its transformation from the formless Soul-Stuff Pool to the future Cosmic Man.

Civilizations are characterized by specific value-structures including popular tastes, social moralities and human and religious values. A Civilization may endure for a thousand years and embrace a substantial proportion of mankind. It may also be relatively restricted in scope and duration. In all cases, civilizations have a dyadic character. Outwardly, they are social and political, arousing in their members expansive ambition and the urge to impose their value-structure upon outlying societies. Inwardly, they are human and religious, seeking for the realization of the Essential Revelation associated with their arising. Arnold Toynbee, whose *Study of History* is our principal source for the picture of civilizations, shows how they have been associated both with great Empires and with Universal Churches.

Civilizations are comparatively recent arrivals upon the scene of human history. Toynbee distinguishes forty odd that have flourished in the past five thousand years. It does not follow that the role they have performed was unfilled before. There have always been Sources from which value-structures have entered human experience. Before there were civilizations, *Schools* were already in Being, but their operations were confined to a minority who stood apart from the rest of mankind. The role of Civilizations has been to spread value-structures widely among all the people of the world. This role is now almost complete, and Civilizations as we know them will give place to new kinds of societies for the transmission of values. This cannot take place until the higher values begin to enter the Soul of Man through the Soul-StuffPool. We may be encouraged to hope that progress is being made in the purification of the SSP, by the observation that ruthless cruelty in human dealings is no longer accepted as it was two thousand years ago. There is also a widespread recognition of the responsibility that the strong bear for the weak. These are indications that the animal nature in the Human Soul is less dominant than it was in the past. Unfortunately, there is no indication that five thousand years of Civilizations, that have embraced

*The Soul-Stuff Pool is the reservoir of experiential energy from which the raw soul-material of human beings is drawn and to which it returns. The countless generations of mankind gradually transform the soul-stuff.

nine tenths of the human race, have succeeded in diminishing the deeper evils of egoistic thirst for existence and for domination over others. Many millennia will have to pass before the flow of influences coming from the Second Source will be very different from what it is at present.

Epochs

The third great stage in the transition from man to Biosphere comes with the world society of the *Epoch,* which is in itself a symbiosis. This means that it is more than a society of all mankind existing over a period of time. It is placed in an environment of evolutionary and involutionary transformation, which includes all the forms of life in the Biosphere. This is not all, for the Epoch has an invisible, or essential, environment that is the whole Destiny of Mankind. The symbiosis is total so far as mankind is concerned, excluding at most, vestigial traces of earlier periods that have fallen out of the evolutionary stream. Since there can be only one such totality at any one time and since their duration is measured in thousands of years, we can have very little historical material for their study. Nevertheless, it seems certain that the Value-Structures of different Civilizations, though conflicting in particulars, have a recognizable common element that marks the stage reached in the general Evolution of the human race. Within the Epoch, civilizations, cultures, states and super-states, world religions and so on, are distinct terms within the total structure. Only in the recent past, has enough historical material become available to permit a synoptic view of the Epochal Symbiosis. Because of its place in the total symbiosis, we shall expect each succeeding Epoch to make a specific and recognizable contribution to human progress. We shall call this the *Master Idea* of the Epoch. Its structure is bound to have a degree of concreteness that corresponds to the number of elements that it must combine.

Humanity

The Human Essence class comprises all beings past, present or future who, living on the earth, have the

potentiality for conscious transformation. Within this Totality, different species of man have arisen in the past and will no doubt do so in the future. Any such major cycle of human transformation determines a totality that we shall call an *Humanity.* The duration of such an element in the Biosphere may be a hundred thousand years- at this stage we have no criterion for deciding. It may be that the successive cycles correspond to the development of the Selves in a single human totality.* The guiding principle here is the belief that mankind has an unique destiny to fulfill and that all subordinate societies are involved in this destiny whether they are aware of it or not.

Spiritualization

Here we have the notion of the "Realization of Essence in Existence and the Spiritualization of Existence through Essence." By including it in our scheme of societies of the Biosphere, we imply that there is a *Spiritualization* for "communities" of Individuals. This suggests a connection with the Individualized Souls of the Psychoteleios Group (who have achieved liberation and are free from the delusions of earthly life). We shall tentatively associate this source within the Biospheric Totality with the "Communion of Saints" and the perfect individuals who have accepted responsibility for guiding the spiritualizing process on the earth: the "Prophetic Circle." This may include also the Demiurgic Essences to form a society of Individual Wills who combine-beyond the limitations of time and place—to perform this task.**

*The reader will recognize a similarity in these ideas to those of Tantric Buddhism and other traditions of the Middle East and China. The author has not found any verification of the precise cycles such as the period of 432,000 years which seems to have originated with the Chaldean cosmologists. The theory of "societies" here introduced was developed independently of these traditions; but the resemblance is not without significance.

**This society is acting on the level of "Providential History." Demiurgic essences are the class of beings who exist on a higher level than man and are responsible for maintaining planetary harmony. As Gurdjieff in his *Beelzebub's Tales* suggests, their work is not necessarily favorable to the liberation of individuals from the cosmic mechanism.

Evolving Stem

The human totalities that will appear on the earth cannot by themselves accomplish the whole task of transforming the Biosphere into a Conscious Creative Being. For this great aim, many different roles must be combined. We understand by the *Evolving Stem* the society which over a major period of time is the growing point in which the significance of life on the earth is concentrated.

Dominant Life-Form of the Biosphere

We have hitherto taken the Biosphere to be an existential totality occupying an indeterminate position between life and existence beyond life. We now have to broaden our view to take into account the *essential* significance of the great society of living things that inhabits the surface of our planet. We have surmised that humanity is in course of developing a Great Human Soul; we may make the further step and suggest that the *Biosphere* is also in course of Evolution towards Unity.

At the present time, man is almost without any sense of responsibility towards the Biosphere. He lives at the expense of the life around him. He forces unnatural processes upon the soil, upon vegetation and upon the animals. He destroys the germinal essence in insects, micro-organisms and other forms of life. All this is done without any consideration for the Biosphere from which he was produced and into which he must return. Like a wanton child, he takes and does not restore and his picture of the future is drawn in terms of human "Mastery over Nature." At the same time, man longs for a destiny beyond nature. He is gaining experience-often very painfully - but he understands very little of life and nothing of the reason why there is life upon this planet earth. Very few members of our present day civilizations are even interested in these problems. Not only to the ordinary, average man, but to philosophers, statesmen and religious leaders, the problem before us is taken as beginning and ending with man. All that we have written in this chapter will be taken either as foolish speculation or as wholly irrelevant to the real problems of our time. Such dismissal of the Biosphere and

its Symbiosis is wholly mistaken, for the problems of life and death that confront mankind today can be resolved only if help comes from the Spiritualizing Power that is working for the Transformation of the Biosphere.

The comparison of the ideal structure of human society with the present situation on the earth makes it evident that there is no effectual Psychokinetic Group.* This is the principal reason why mankind is living out of harmony with the needs of the Community of Life on the Earth. The Specialists who have acquired some degree of understanding of the situation have no authority and are compelled to act as the instruments of the psychostatic leaders. When the situation is studied dispassionately, it would seem that the progressive deterioration of man's relations with the Biosphere is inevitable. It has even been half-seriously suggested that man will ultimately be able to dispense with all other forms of life, producing not only all materials but all nutrients required for his existence by the exercise of his own power to control the material energies. Even today, voices are raised in warning against such folly - not on moral grounds, but because of the evidences that the destruction of life on the earth is outstripping man's ability to find substitutes. Deforestation, the loss of fertility of arable lands, the depopulation of the oceans, the adulteration of food-stuffs, and the loss of nutritive values, increasing population pressure in the human race itself, are all cited as danger signals that mankind refuses to heed. Indeed, man is playing a role of "anti-symbiotic."**

If our analysis of the social structure corresponds to the reality, these danger signals are warnings of a deeper peril: that of the emergence of human societies so highly organized as to dominate the world and yet wholly and willfully ignorant of the true significance of man's existence.

*The group undergoing personal transformation and moving from personality to individuality - or *becoming real.* This group is between the psychostatic who lives a .purely external life, and the psychoteleios, who has attained self-realization.

**There is an American fantasy which installs the Devil in a Manhattan skyscraper and shows how he (the devil) teaches man how to destroy biosphere.

The Planetary Enneagram

M. he earth has for two or three billion years been a self-renewing whole. It has supported life and it has produced energies needed for the evolution of the solar system. It participates in an equilibrium between the planet, the biosphere and what Teilhard de Chardin calls the noo-sphere or the sphere of the mind. This equilibrium is required for the fulfillment of the great purpose for which the system was brought into existence. For the past two or three million years - that is but one thousandth part of the time that life has been present - the earth has been the home of the human race. We shall see if we can understand this equilibrium and its needs, and our place in it with the help of the Enneagram.

The earth itself is the body of the planetary spirit. This great idea was formulated a hundred years ago by a German philosopher-psychologist, Gustav Fechner in his work "Day view versus Night view" ("Tagesansicht gegen Nachtansicht"). He was perhaps inclined to picture the planetary being too much on the model of a human being; but he was one of the precursors of the new epoch. His book will be rediscovered and read again as its prophecy begins to be fulfilled. The earth is not a "living" being in the sense that men and horses, bees and worms are. It begets life in a sense that is similar to the way in which a cook "prepares" a meal or a painter "paints" a picture. There is a Creative Genius associated with the earth that is expressed by the word *Elohim* in the book of Genesis. This creative genius

plays the same role in the evolution of life as does the chief cook in the preparation of a meal. We can also picture the spiritual powers that perform all the functions needed for the evolution of the planet. These Gurdjieff called the "Heavenly Host."

The solid earth is the kitchen and the biosphere is the food to be cooked. The community that must be fed is the spirit world which needs bodies to fulfill its destiny. We can represent the three octaves on the Enneagram as shown on the planetary diagram.

The sequence in which forms of existence have arisen goes round the circle. First there was the earth with its seas and atmosphere. Under the action of the intense radiation from the sun, the surface was slowly transformed and activated until self-renewing complexes began to appear. This is the transition *re-mi* from rock to soil. The appearance of life was a creative step completed with the appearance of sexual reproduction and hence the possibility of evolution by variation and survival. The notes *fa* and *sol*, vegetation and invertebrates, include all forms of life in which there is no individual thought and feeling. The next stage comes with the entry of a power that is beyond instinct and is shared by all forms of life having a nervous system, that is the chordata including reptiles, fishes, birds, animals and man. This power comes from the organization of sensitive energy which occurs at the note *la* and of consciousness at the note *si.*

Man as a natural being belongs to the final stage of the process of evolution, but he is capable of further transformation, by way of a fresh cycle that begins at the note Do or point 9 of the Enneagram. This is the path of spiritualization.

We now have three distinct processes:

1. ***The Evolution of the Planet***

Do	The primitive earth
Re	Rocks, water and air
Mi	Soil and sea water
Fa	Vegetation
Sol	Invertebrates and germs

La	Animals
Si	Man
Do	The spiritualized earth

2. ***The Emergence of Life***

Do	Self-reproducing forms
Re	Vegetation
Mi	Invertebrates
Fa	Animals
Sol	Man
(La)	Conscious Man
(Si)	Creative Man
(Do)	Man united with the Creator

3. ***The Spiritual Transformation***

Do	The Heavenly Host
Re	Sensitive Beings
Mi	Conscious Beings
(Fa)	Transformed Beings

The notes in brackets go beyond the Enneagram of the planet and can be interpreted only by taking into account the significance of the sun and the solar system as a whole. The earth itself has a threefold significance. According to Gurdjieff, planets which support life were brought into existence to enable self-creating beings to fulfill their destiny. The earth is thus first a medium, second a creative power and third a manifestation of the spirit. It is a link between the worlds of material existence, sentience and creativity. These are called in the Sufi terminology:

Alem-i-Ejsam	The world of bodies
Alem-i-Ervah	The world of spirits
Alem-i-Imkyan	The world of potentialities

So far the scheme has not revealed anything new. It serves to give us a vision of the wholeness of planetary existence and its place in the system of Reciprocal Maintenance by which the universe fulfills its destiny. But it does not tell us anything about the way in which the processes are controlled and commanded. We must turn to the

recurrent six-pointed figure which represents the view-point of the directive Intelligence; as with the chief cook in the kitchen example. The mechanistic view of evolution rejects the notion of a directive Intelligence, deeming this to be an unnecessary complication; yet, a century of research conducted with enormous resources by scientists of the highest ability has failed to produce a convincing account of the evolution of life on the planet based on pure mechanism, denying any role to intelligence.

Let us imagine a Demiurgic Intelligence able to survey the history of three billion years and to look upon a million years as we should a week's work. It is essential to place oneself in the perspective of such a time scale if we are to see the destiny of our planet as a whole. We should also take account of three different kinds of time, one linear, one circular, and one exponential. This is an aspect of the Enneagram that we have not so far considered but it is necessary to see it in this way if we are to reconcile the observed facts of progress, repetition and recurrence and acceleration. The study of time and eternity is so vast a subject that we cannot do more than mention it at this stage.

So we return to the Demiurgic Intelligence and ask ourselves how the process of evolution is to be set in motion. There must first of all be a fertile medium. This we find in the soil and corresponding chemical complexes in the oceans. For life as we know it, an atmosphere rich in oxygen is indispensable, but in order to have these conditions there must already be life. The egg-hen dilemma faces the Demiurgic Intelligence who resolves it by bringing into existence pre-vital forms that can reproduce and no more. We would know nothing of these forms if one example were not present today. This is the non-cellular protoplasmic skin that covers wet rock in the form of blue-green algae. For 500,000,000 years and perhaps much longer, there was no other vital activity on the surface of the earth. It is represented by the line 1-4 on the Enneagram and it leads by the line 4-2 to the soil or its equivalent: the ocean. The point 2 includes the formation of the atmosphere as we know it.

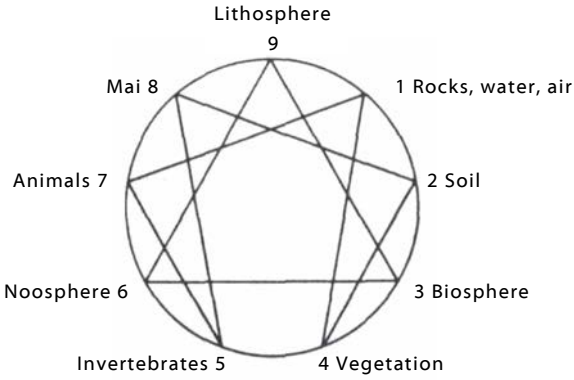


Fig. 15 / PLANETARY ENNEAGRAM

At this point the octave has reached its mechano-coinciding Mdnel-In where the second shock must come. This is unquestionably the entry of sexual reproduction. It can be said that all the troubles of this earth began two billion years ago when the first male and female cells appeared. It is almost impossible to imagine that a mass of protoplasm could spontaneously acquire sexual characteristics. It is much more plausible to believe that the Demiurgic Intelligence introduced sex from beyond earth perhaps even from beyond the solar system. From the moment sexual reproduction appeared evolution could continue by means of "Harnel Miatznel." The Demiurgic Intelligence could now look forward to the final stage where Man would appear and direct the course of evolution with this objective before Him. This is the line 2-8 of the Enneagram.

Man could appear on earth only when an almost limitless variety of forms and energies had created a suitable medium. This was the role of the invertebrate phyla, sponges and corals, bacteria and enzymes, worms, insects and molluscs. These all contribute something to the environment of human life on earth. The Demiurgic Intelligence foresaw and prepared this by the way of the line 8-5 of the Enneagram. The main characteristic of the point 5 is the concentration and release of sexual energy.

The octave of life reaches here its own mechano-coinciding Mdnel-In and needs a shock for its further progress. This came with the entry of organized sensitivity, but here again we have an element that cannot come by Harnel Miatznel alone. Sensitivity can be organized only by consciousness, which in turn must be directed by a creative intelligence. The way this came about is indicated in the Purgatory Chapter *of Beelzebub's Tales to His Grandson.* Our Endless Creator observed in the invertebrates the possibility of independent movement and guided them towards sensitivity. In the Enneagram this is shown in the point 6 which is the entry of spiritualizing influences from above. They carry the creative action along the line 5-7 to give rise to animal life.

Here life begins to act upon the planet itself. The line 7-1 is a warning that the earth is subject to a strain that comes to a climax with the appearance of Man. We may now be in the presence of the Demiurgic action required to maintain the equilibrium of the earth. Man in his animal nature is a predator, he feeds upon all life, despoils his own home; the earth. The cycle of recurrence requires that the earth should be restored to its original state. Will this come about by the destruction of all life or by the transformation of Man? This is a question we cannot answer and it may even be outside the power of the Demiurgic Intelligence to resolve.

This sketch of the application of the Enneagram to the study of our planet and the evolution of life raises very important questions. Indeed, it sets up a programme of research that may be more important for our future than the exploration of space or even the study of the structure of matter or the release of its hidden energies.

Appendix I

Structured Process in Scientific Experiment

K. W. Pledge

> "In this work more than any other it is rewarding to keep on looking at questions, which one considers solved, from another quarter, as if they were unsolved."
>
> ***Wittgenstein***

Abstract

In this paper the consequences of applying a certain type *of symbolic* method of investigation are demonstrated by its application to the study of particular scientific experiments. It is demonstrated that the scientific situations which are called experiments are bound by the same qualitative laws, structural principles, modes of patterning - however they may be called - as any other situations in which the presence of *completing processes* can be discerned. There enter into scientific work, as into every activity of whatever kind, certain qualitative and structural considerations which have direct bearing upon what can be *realized* by means of action within situations. Using Gurdjieffs generalized action symbol *the enneagram,* which symbolizes the various patternings to which completing processes conform, it is demonstrated that both Newton's prism deviation experiment and the corresponding spectrometer experiment unmistakably exemplify these

patternings. The results of the enquiry are consistent with an interpretation of scientific experiment as the study of specific completing processes by gradual removal of the contingent factors from situations in which they are exemplified.

Preface

In this paper an attempt is made to show how certain extremely general ideas about structure are actually exemplified in the real situations of specific physical experiments.

I do not expect to have achieved more than an indication of how this can be done. It is now little more than two years since I first began to be able to see how precisely the octave structure of a completing process, with its necessary interventions from outside the process, is exemplified in the simple experiment of Isaac Newton to disperse white light through a prism.

What I first saw was communicated in a very brief internal paper delivered to the Integral Science Research Group of the Institute for Comparative Study in 1963, but the time was not yet ripe to develop the ideas it contained and I left the matter there. For a long time I ceased even to be able to see what I saw then, for my attention came to be occupied with other matters.

When I recently took up the task of making a full-length article out of that early paper I discovered that my power to see structure had moved on even in that short while. I could now see more in the simple physical situation of Newton's experiment than I had previously even dreamed could be there. Other work which had occupied me during the intervening time began to show itself as also possessing a rightful place in the structure that was unfolding before my eyes.

I must apologize in advance for the unfair demand which is made upon the reader who is not already familiar

with Gurdjieffs extraordinary book *All and Everything* or Ouspensky's faithful record, in his book *In Search of the Miraculous,* of Gurdjieffs early teaching about general structures and the principles according to which they are held together. It was Ouspensky's book which first gave me a convincing glimpse of the way to see into the general structure of situations. But my rigorous scientific training was equally compelling with its evidence that science can and does discover, but in a different way, valid knowledge about the way the world really is.

It was for me a most happy moment when I saw that both my painfully-acquired empirical science and the no less painfully-acquired structural ideas of Gurdjieff- which he himself gained by direct contact with ancient traditional sources—could be seen to have their own place. The one illuminated and completed the other. I began to see that Gurdjieffs ideas and symbolism could begin to explain why the practice of science can be beautifully exciting and rewarding for theorist and experimentalist alike.

I saw that my training as a scientist, which refused to let me accept ideas without seeing for myself some kind of correspondence between them and what for me was the unshakeable concrete reality of experimental fact, had not been wasted.

I knew I was seeing new things and looking at old things in new ways that made them meaningful and worthwhile and that was enough.

It became clear to me that the very notion of *proof* in general turns upon the possibility of establishing correspondences between corresponding elements in a structure. Where no correspondence can be established there is no possibility of proving anything whatsoever. The ability to "follow" a proof therefore becomes the power to perceive the correspondences involved.

The ability to follow *general* proofs of the exemplification of *general* structural principles turns then upon a power of the mind to perceive in what we may call a symbolic or *figurative* way.

1. Study and Exemplification of Structure

Symbolism refers to pervasive structure. Situations may be more or less structured, more or less intelligible. It is common experience that structural features of one situation can often be transferred to another. The use of electrical analogues in treating acoustical problems is but one example. There are mathematical formulae such as the wave equation, mathematical techniques such as the differential and integral calculus, the very operations of arithmetic and number generally, which provide symbolisms and refer to pervasive structure in countless situations. In this paper we shall be concerned with the application of a special kind of structural symbolism which is non-mathematical but pervasive nevertheless. It is a symbolism specifically concerned to elucidate the *action-structure* of situations. In this paper, specifically those concerned in scientific experimentation.

Science is what scientists *do.* In studying what scientists do we have to study structured action-situations which involve arrangements and operations with extended material objects. We have to examine closely the adjustments that scientists make when they set up and operate their apparatus. We have to study the processes which the apparatus is specifically set up to study. We have to have some means of eliciting the significance of all these things and we have to find a means of doing it simply, clearly and with satisfying generality.

Experiments give data which are factual. But the performance of any actual experiment involves considerations of intention, value, judgment, intelligent action towards the achievement of purposes and the like which go beyond the kind of facts yielded by the experiment. They are involved in arriving at the facts, but by the time the facts have been produced they have disappeared. This leads to certain naive misunderstandings concerning the nature of scientific facts in which the experimentalist himself, who

knows just how much time, effort and difficulty are involved in producing the results, is not likely to share. Nevertheless, many men still talk as if the results of experiment are somehow objectively true and independent of the scientist who provided them. There is some truth in this notion, but like many another popular belief it requires to be taken with a grain of salt and hedged about with provisos before it becomes of real significance.

Generalized symbols cannot be used without importing into the situation just those kinds of considerations which are left out in deriving the results of science. Because of this, the manner of their use is somewhat different from, say, mathematics in scientific work. With them, one studies *whole* structures. If a part is studied using such a symbol, it is by reference to the whole situation from which it derives and to which it refers. In mathematics it is possible, and indeed necessary, to study parts in isolation and treat them as if they are independent from the wholes to which they refer. In generalized symbolism this is not possible. The connectedness is primary.

The use of such symbols as instruments of study requires a type of perception of the structural similarity common to diverse situations which is not markedly different from the kind of perception by which one, for example, learns through study and practice eventually to *see* what type of mathematical form corresponds to a definite physical situation. The difference is that one is working more from the general form to the situation than seeking to fit one of a variety of forms to the particular physical conditions. There is in both cases an aesthetic faculty involved in the recognition of the correspondence involved which is akin to the response to a work of art.

The difference from working with mathematical forms lies in the way in which the perception penetrates into the investigation. When one has discovered the appropriate mathematics for dealing with a particular physical problem, there often remains only to apply its associated procedure of calculation and the problem is solved. In other words, the solution can be arrived at automatically without more ado. In studying the structure with the use of

generalized symbolism the attention cannot leave the problem lest the substance of the structure vanish before one's eyes. The practical use of the symbol is rewarding only when it proceeds hand in hand with deliberate *confrontation* of the symbolic structure and the "irreducible and stubborn facts" of the situation under study.

Gurdjieff himself put this in a nutshell by his reported remark: "Only what a man is able to put into the enneagram does he actually *know,* that is, understand. What he cannot put into the enneagram he does not understand."*

The emphasis is on thorough grasp of the situation. In this there is no difference in degree between the college professor and the skilled garage mechanic. The practical test is, as always, that of effective action.

Human situations only comparatively rarely exemplify the full structuring of a completely general symbol. In particular, most artificial situations fall short of full exemplification, though elements of it may be perceptible. What one usually finds is that a situation contains features which correspond closely to one or another characteristic of the structuring a symbol describes and lacks others to an equally noticeable degree. Very many situations are found which exemplify the structure of a completing process. Others, rather more rarely, clearly show the pattern of three interacting processes necessary for the attainment of some desired end. Even more rarely do we find that inner recurrent pattern strongly established by which they are marked out as realized events.

II. Pattern of Structuring Symbolized by the Enneagram

We shall in this paper use the action symbol called *the enneagram* as an instrument of study and interpretation. It will be convenient at this stage to recapitulate some of the

*Quoted by his pupil P. D. Ouspensky in *In Search of the Miraculous,* Routledge & Kegan Paul, 1950. P. 294.

more striking characteristics of the structuring characterized in the enneagram before attempting to demonstrate how the whole patterning is exemplified in the examples that follow.

The symbol can first be looked upon as the symbol of a completing process of development. This is symbolized by the circle which contains the "figure of nine lines" from which the name of the symbol is derived. The process is to be imagined as originating from the uppermost point and developing along the circumference generated by clockwise rotation about the centre point.

The completion of the development is symbolized by the termination of the curve in its meeting with the starting-point and so forming a completed closed figure. Thus the bounding circle symbolizes the notion of a continually modified developing process in some way under restraint by an intentional act of will which enables it to come to its completion.

The end of the circle returns into the beginning; and this symbolizes the manner in which a co-ordinated sequence of actions sets out with the end already in view, already present though not yet in existence.

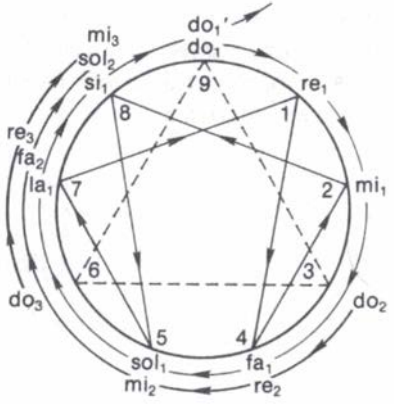


Fig 16 / THE GENERALIZED ACTION SYMBOL OF THE ENNEAGRAM SHOWING ITS THREE INTERACTING PROCESSES

The circle once completed has no beginning and no end. This symbolizes the power of completed processes to perpetuate themselves repeatedly. Once made they alter the course of things, as an historical experiment, once made, cannot be unmade but must be taken into account in future science. The recurrence of the circle also symbolizes that processes can grow and develop in force and significance, as the simple process of Newton's experiment gave rise, with no change in the fundamental completing process involved, to the spectrometer.

The enclosing circle also symbolizes the requirement for isolation of a region within which the completing process may proceed. In order for an event to come about there must be some *place* at which it can be situated. An event is a *really existing* situation within the existing world which has "found its place" and holds on to it with a force of its own independent of the extraneous background of ever-changing contingencies.

Here we begin to touch the kernel of the matter and find a connection with science. Science is concerned with the study of order within the existing world. It carries on this study by producing and examining artificial situations from which contingency is, as far as is humanly possible, removed. These situations are called *experiments* and are the source of restricted but non-contingent information about completing processes within the world.

The setting-up of an experiment is the establishment of an *event* within a completing process. The power to remove contingencies is the condition of establishment of such events. More exactly, it is not the power to remove but to *circumvent* contingency which is the hallmark of the great experimentalist. Aston, Faraday, Michelson, Newton, were all brilliant men with a gift for performing just the right structuring action in an experimental situation which would circumvent the contingencies involved. There is even a saying about Michelson to the effect that "Michelson's interferometer was a marvellous instrument-in the hands of Michelson." There is plenty of evidence to show that the great advances in science are marked by an awareness of

the presence of uncertainty in theoretical steps forward-contingency in experimental master strokes.*

The difficulty with the application of generalized action symbolism which does not arise with mathematics is the multiplicity of meaning. Whereas in the more familiar symbolisms there is a more or less one-to-one correspondence between symbol and meaning, in structural action symbolism the correspondences are one-to-many and correspondingly complex. Thus the inner triangle of the figure symbolizes the requirement that not one but *three* independently derived and mutually interacting processes of development are necessary to ensure that one single such process shall be enabled to reach completion.

The triangle also serves to symbolize that the three processes must knit together according to the relationship of affirmation, denial and reconciliation specified by the three-term system or triad. The first completing process transmits the affirmation in the relationship as the main process of the three. The second transmits the denying impulses to which the first is subject in consequence of hazard and uncertainty and contributed perforce by the environmental conditions through which it is required to proceed. The third process is concerned with bringing the development successfully to its intended conclusion through a reconciliation of these two oppositely-acting impulses.

Another aspect which the triangle symbolizes concerns the qualitative and quantitative aspect of the interaction between the processes. The three impulses must be *matched*— must be of the appropriate kind and degree for correct matching and consequent fineness of quality in the final product. A striking example occurs in the spectrometer where the inner triad of collimator, prism and telescope allows of astonishingly fine matching in the whole process and an accuracy of measurement to fractions of a per cent in use.

**Cf. Brighter Than a Thousand Suns,* by R. Jungk, Penguin Books, 1960, and *J. J. Thomson and the Cavendish Laboratory,* by Sir G. P. Thomson, Nelson, 1964; *Reason and Chance in Scientific Discovery,* by R. Taton, Science Editions, New York 1962; *The Art of Scientific Investigation,* by W.I.B. Beveridge, Heinemann, 1950.

The triple demarcation of the circle brought about by the inner triangle serves to indicate three main regions of the developing process. The first region is concerned with a stage of outgoing or expansion, the second with interaction or mediation, the third with return or concentrative receptivity. The third region concerns the *finalizing* process which intervenes at point 6 of the figure and ensures proper completion of the process at point 9. The second region is concerned with *enabling* the main process to continue and involves the entry of the second process at point 3. The first region is the domain within which the original process becomes established.

There are countless further interpretations of the inner triangle of which we may mention only one. This is connected with the location or fixation of a structure within a situation. There is a threefold action which, once accomplished, ensures that the parts of a process are harmoniously disposed with respect to it. In scientific work this is directly concerned with the location of apparatus in space. There are three kinds of spatial operations possible with apparatus: it can be placed in position, its elements can be aligned with respect to directions defined amongst themselves, and finally there can be rotations of directions thus defined. These three possibilities exhaust the instrumental possibilities allowed by space.

We can now come to consider the recurrent figure within the circle. This repeats itself according to the recurring number sequence 1-4-2-8-5-7.* The pattern signifies an interwoven connectedness between the structure of the three processes of the situation which, when attained, organizes the whole into a significant *event.* Correspondences are necessary between the points in the three processes connected by this figure which are made to hold by certain actions performed between them. The performance of these actions is the work of *synchronization*

*The repeated decimal common to all non-integral fractions with 7 as denominator. It demonstrates the incommensurability of sevenfoldness with unity and serves to express in number symbolism one of the necessary incompatibilities of structure. A derivation of the figure is contained in *In Search of the Miraculous,* p. 289.

between the processes which makes a patterned and properly working whole.

We come now to the symbolic notation of the musical octave with its seven intervals between the eight notes from *do to* the second harmonic *do'*.

do-re-mi / fa-sol-la-si / do'

The gaps marked with oblique strokes indicate the two semitone-intervals in the octave.

This is an ancient means of indicating the characteristics of a developing process in a convenient and economical way. The transition from note to note successfully conveys the character of a *transformation.* The note remains a note, that is, it remains a sound, but changes in pitch. Thus, by analogy, a transformation involves a change in quality of some material vehicle which retains its own nature during the change. The transition to a finer quality is conveyed by the rise in pitch involved.

The semitones between the notes *mi-fa* and *si-do'* symbolize two kinds of discontinuity implicit in the development of completing processes by which they require to be reinforced by the intervention of other processes in order to reach completion. This has already been treated above by reference to the enneagram and the three interacting processes it requires.

There is a special condition in the transformation process associated with the transition following the note *sol* which is described by Gurdjieff.* This lies between the two steps of the transformation involving the semitones referred to above, at a stage of the process where interaction with disturbing factors has already occurred. That point is just being reached at which correcting effects, which will bring the process to finality, are at last able to intervene. It is, in other words, a stage of particular hazard for the completion of the process to which it refers.

Generally speaking, it is sometimes possible, in highly sophisticated and *well-organized* situations, to trace strong

**Cf^. *All and Everything,* by G. Gurdjieff, Routledge & Kegan Paul, 1950, p. 754-6. "Harnel-Aoot."*

exemplification of all the component structuring of the enneagram pattern. Such situations are invariably those which have evolved painfully over the years to meet more and more completely and appropriately some fairly well-defined need or purpose.* They arise in science in those experimental arrangements which have become evolved to deal experimentally with one particular phenomenon in one particularly specialized way. A striking example will be studied in the present paper when we come to examine the structure involved in the operation of an optical spectrometer and elicit its exemplification of the enneagram structure. Nevertheless, the enneagram can be to some extent studied piecemeal by picking out, say, the three-process structure of a petrol-engine where the main completing process concerns the air, the secondary deals with fuel injection, and the third ignition. Another example occurs in the thermionic diode with a strongly exemplified main completing process from cathode to anode, but we do not find the enneagram strongly exemplified until we add a third (grid) electrode and an anode resistor. In the transformation from rectifier to voltage amplifier we have, in *Systematic* terms, a transition from the *dyad to* the *triad.*

We have now barely outlined the weapons of attack upon the structural problems with which we are concerned. As described above the striking power of a generalized symbol is probably only dimly evident. It will become clearer only when we have succeeded in demonstrating a real correspondence between the patterns it manifests and the structure of the concrete world of scientific experiment.

Ill, Application of the Symbol to Particular Situations

It will be convenient to approach the study of situations which exemplify the pattern of structure by the enneagram in a certain order. We adopt the following procedure:

**Cf. The Manufacturing Process* (Chapter 4).

1. First we shall seek for the isolated region within which the process proceeds. Strictly speaking, the three do's of the three processes are generated from outside this region. This serves to define its boundaries.
2. Next we shall consider the fundamental completing process. Often we can recognize the similarity between the two notes *do* and *do'* which initiate and terminate the process.
3. We shall then look for the manifestation of the inner recurrent figure of the symbol. Very often it is this only which gives the clue to the real character of the event which is realized upon its closure.
4. Finally we shall examine the situation according to the various meanings of the inner triangle symbol: the three interacting processes; the fixation of the whole within its situation; the qualitative and quantitative aspects of the relationship; the three regions, etc.

We now continue, without more ado, to conduct our studies through the consideration of particular physical experiments. The experiments chosen are Newton's famous experiment* of 1660 to show that "the light of the Sun consists of rays differently refrangible"; and the corresponding, though more refined, experiments performed today with the direct descendent of Newton's apparatus which is the optical prism spectrometer.

IV. Newton's Prism Refraction Experiment

1. *Situation*

Newton was a brilliant and painstaking experimentalist. To such a man there is granted eventually an

*.. .which he himself indicated as "being in my judgement the oddest if not the most considerable detection which hath hitherto been made into the operations of nature."

intuitive grasp of structure. Such men become so expert in the field of their absorbing interest that they come to be able instinctively to do the right thing, make the right adjustment, find the right way around some difficulty. All this comes with the feeling for structure. There comes, too, the knowledge that the complexity of the world is virtually limitless, hence the need for generalized symbolisms to express its multiplicity.

Newton it was who remarked, shortly before the end of his brilliant life:

> "I do not know what I may appear to the world, but to myself I seem to have been only like a boy playing on the seashore, and diverting myself in now and then finding a smoother pebble or a prettier shell than ordinary, whilst the great ocean of truth lay all undiscovered before me."

This same man wrote the awe-inspiring *Principia* and the famous *Optics.* When we turn in the *Optics* to the pages at which Newton records his own description of the experiment by which he demonstrated the formation of the coloured spectrum from white light, we read the following:*

> "In a very dark chamber, at a round hole, about one-third part of an inch broad, made in the shut of a window, I placed a glass prism, whereby the beam of the Sun's light, which came in at that hole, might be refracted upwards towards the opposite wall of the chamber, and there form a coloured image of the Sun."

Newton was not only a brilliant experimentalist, he was a brilliant formulator and expositor as well. In this single condensed sentence he has managed to convey with precision the first two of our set of four groupings of structural aspects. He has given, in fair exactness, the eight notes in the octave of the main completing process, and assigned the region in which it proceeds.

**Optics,* by Sir Isaac Newton. London, 1704, Bk. 1. Pt. 1. Prop. 2. Th. 2. Expt. 3.

We now apply the symbolism according to the procedure outlined above.

The circle, taken as providing the place within which the completing process and potential event is to become established is, of course, the "very dark chamber." It is dark because the event is to be an experiment with light, so it is specially prepared. It is a chamber which will *contain* the experiment.

2. *Main Completing Process*

The seven steps and eight notes of the main completing process with reference to which the experiment is made are quite well enough described for the purposes of exposition. We can recognize the following eight necessary stages of the process from his descriptions:

do 1	The Sun as light source
re 1	The hole
mi 1	The entering beam
fa 1	The refraction
sol 1	The prism
la 1	The upwards deviation of the refracted beam
si1	The opposite wall
do´1	The Sun as coloured image

Table 1. Main Completing Process of Newton's Experiment

The correspondence between the Sun as original radiating source and the image as re-radiating source unmistakably points them out as do and *do'* of the main completing process. The interval between the notes *mi-fa* is filled by the prism face and so the second process in the experiment must be concerned with the effects of the prism upon the light. The remaining si'-do' semitone interval is filled and the process completed by the atoms of the wall surface as it absorbs and re-emits the deviated beam incident upon it.

It is clear that seven steps can be roughly distinguished in this way but, unlike other ways of approaching problems,

we have to face an unavoidable seeming vagueness in attempting to make precise ascriptions. The generalized symbolic method studies situations as connected wholes: and this holds good throughout. We cannot make precise and separate from one another elements which are in reality always connected. All we can do is point to certain *nodal* regions within which a given character is more or less exemplified and then pass on to the next such nodal region by a kind of withdrawal of the attention from one character and transfer to the next. The technique is *exactly* in correspondence with the procedure by which we ascribe seven colours to the spectrum. We cannot say where one colour terminates and the next succeeds, nevertheless we can distinguish the seven—no more and no less.

3. *Structure of the Event*

We have enough material now to begin to construct the enneagram of the experiment. To make the whole study more clear, we first put down a schematic diagram of Newton's apparatus, showing the steps labelled with the octave notes which they characterize. The diagram is Newton's own in all essentials. We then set down the circle with the eight notes of the main octave distributed around it in the usual manner.

The inner triangle is dotted-in for completeness, but for the moment we shall concentrate on elucidating the signifi-

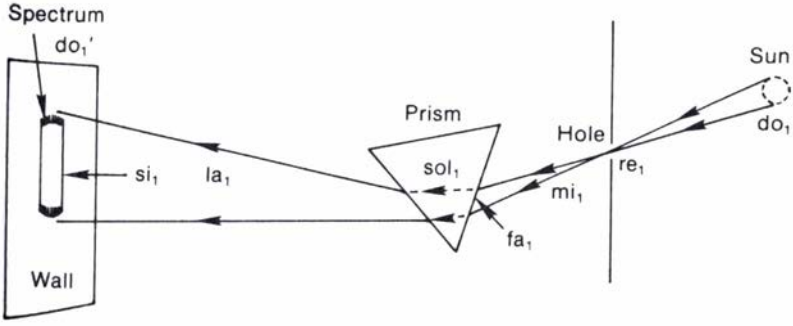


Fig. 17 / SCHEMATIC OF NEWTON'S PRISM REFRACTION EXPERIMENT

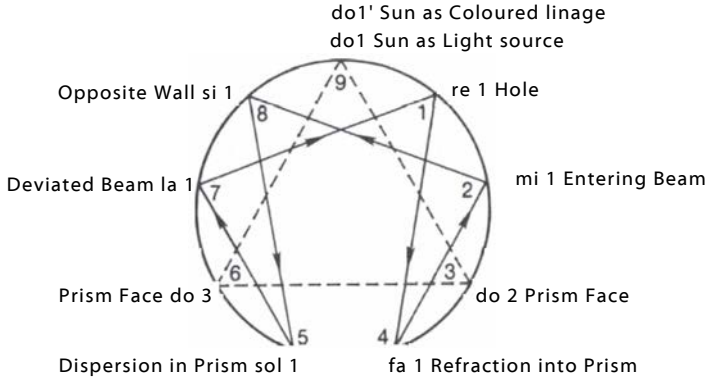


Fig. 18 / ENNEAGRAM INDICATING OCTAVE OF MAN COMPLETING PROCESS IN NEWTONS EXPERIMENT

cance of the inner recurrent figure joining the numbers 1-4-2-8-5-7 on the circumference of the circle.

For this purpose we simply have to turn again to Newton's own account of his procedure in the *Optics.*

(1-4) ***Connection:***

From the first quotation above we extract the following statement which describes his first action in setting-up the experiment. It corresponds to that establishment of the line 1-4 of the recurrent figure. It is simply that: "... at a round hole... I placed a glass prism..."

This is an *action* which places hole and prism in a certain state of connectedness and meaning for each other. The action is simply performed but its significance takes some little time to comprehend. It sets the stage, as it were, for the synchronizing actions which will follow in the inner recurrent pattern.

(4-2) ***Connection:***

The next sentence immediately succeeds that previously quoted: "The axis of the prism (that is, the line passing through the middle of the prism from one end of it to the other and parallel to the edge of the refracting angle) was in this and the following experiments perpendicular to the incident rays."

This setting of the prism axis perpendicular to the incident beam is of immense significance. It is an act of *standardization* which immediately eradicates one of the contingencies in the situation, an act of limitation which removes certain possibilities and retains only a single ordered set. For each one of the set of possibilities which is retained there is one and only one condition of connectedness holding between prism face and incident beam.

(2-8) ***Connection:***

This connection is only weakly exemplified in this experiment, as will become clear when we discover it strongly made in the spectrometer. At present we need merely note that a connection between beam and opposite wall is assured by the construction of the room. The incident beam will always provide *some* result at the wall as long as the actions so far described which connect the points 1-4-2 are not revoked.

(8-5-7) ***Connection:***

For elucidation of these connecting acts we again appeal to Newton's account, which continues: "...About this axis I turned the prism slowly, and saw the refracted light on the wall, or coloured image of the Sun, first to descend, and then to ascend."

Turning to the enneagram figure, we plot the action as follows: With his attention directed to the wall at point 8, Newton rotates the prism at point 5, thereby varying the deviation of the transmitted beam at 7.

(7-1) ***Connection:***

Now we come to the act which makes the whole experiment into an event. Newton describes it by saying: "Between the descent and ascent, when the image seemed stationary, *I stopped the prism, and fixed it in that posture, that it should be moved no more."*

To see the connectedness here in its dependence upon deviated beam and hole, we have to reflect that the perfection with which this last act is completed depends in the last instance upon the precision with which the point of

minimum deviation is able to be determined. This is set directly by the hole-too small a hole will provide too dim a final image, leaving out of account diffraction effects - too large a hole will just give a blur. Hence the adjustable slit of the modern spectrometer. The problem only becomes properly resolved when monochromatic beams are used, which correspond to modification in *do1* and hence fall outside of the domain of the experiment as such. Newton found it a considerable problem, since he was using white light and hence overlapping coloured images. Nevertheless he recognized the commitment involved in reaching the point of closure of the recurrent figure, for he goes on to tell us that he afterwards standardized this position for his prisms in other experiments.

4. *Inner Harmony*

The wealth of symbolic meaning in the inner triangle of the figure precludes any attempt to give other than a few examples of its application to the experiment. We shall consider its establishment by degrees, as follows.

Point 9 is established before the prism is placed in position and even before the experiment exists as the one we are studying. It is established when the initiating and completing notes *sound as one.* In other words, when the Sun simply casts its own image upon the wall opposite the hole in the window. There *is* no triangle because there is no interaction, no outgoing and no returning.

Points 3 and 6 are established, and with them the base of the triangle and its two sides 9-3 and 6-9, when the prism is interposed between the hole and wall.

With the prism placed in position there comes at once a threefold separation of the form described above. A completing process comes into being which comprises regions of outgoing and returning mediated by interaction.

In considering the further significance of the triangle we may visualize it as a *skew* or assymetrical triangle so long as the outgoing and returning processes are lacking in mutual adjustment. When they become balanced there enters a *harmony* into the whole situation. In Newton's experiment precisely this harmonization occurs at the

moment of achievement of the minimum deviation position. This is the point, already mentioned: "...between the ascent and the descent, when the image seemed stationary."

Newton gives his reason, really an *aesthetic* reason, for choosing this particular position as the termination of his setting-up operations. He says: "For in that posture the refractions of the light at the two sides of the refracting angle, that is, at the entrance of the rays into the prism, and at their going out of it, were equal to one another."

The very experiment itself becomes symbolic of harmony at this point. The structure of harmony cuts through all levels and shows itself in all *acts* of harmony wherever and whenever they may be performed.

The act of harmony signifies a realization of value within a factual situation. Anyone who has actually performed this very experiment will instantly recall the aesthetic satisfaction of achieving the minimum deviation position at the end of the setting-up sequence. There is an unmistakable awareness that something has been *realized* which comes with that final adjustment. It is the reward of the true experimentalist.

V. Optical Prism Spectrometer

We now part company with the writings of Newton, who knew nothing of the spectrometer as we know it today. One wonders what he would have achieved if he had.

We pursue our chosen line of attack by first considering the spectrometer in its capacity as the place of experiment.

At this point we are compelled by reason of limited space to refer the reader to the usual textbooks and laboratory manuals for details of the appearance, construction and operation of the instrument.* In this paper we shall

**Textbook of Light*, by G. R. Noakes, Macmillan, 1946, contains much of the relevant information. Another reliable source is *Experimental Optics*, by Wagner, John Wiley, 1929, but any textbook of Physics to Intermediate Standard is suitable. In England manipulation of the prism spectrometer is now an established part of the syllabus in Physics at Advanced Level.

assume the reader to be familiar enough with its working to be able to follow the points we shall select to illustrate our purposes. A schematic diagram of the optics involved in the instrument is given in Fig. 19.

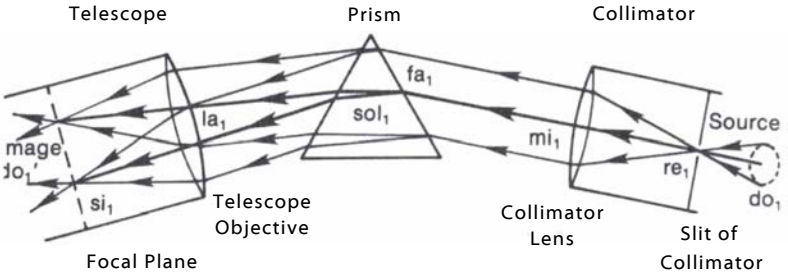


Fig. 19 / SCHEMATIC OF OPTICAL PRISM SPECTROMETER
(heavy lines indicating corresponding "idealized rays")

1. ***Measurement Space***

The spectrometer as the place within which the experiment will be situated shows an unmistakable evolution from Newton's dark room with a hole in the window shutter. The whole has become an organized mechanism which contains within itself everything necessary for the existence,* which means the performance, of the prism deviation experiment. The hole has evolved into a complete sub-instrument capable of independent adjustment on its own account. We could devote an enneagram to this instrument alone, the Collimator, and we would find a setting-up sequence corresponding to the recurrent inner lines of Newton's experiment. The harmony achieved through the act of closing the pattern would be the production of the parallel beam which the instrument is designed to achieve. The telescope likewise is a sub-instrument which has evolved out of the wall that plays its part in the structure of Newton's experimental set-up.

Cf. In Search of the Miraculous, p. 288.

Both of these sub-instruments are within the place at which the *same* experiment as before will become situated within the existing world. But the place itself has moved on from Newton's room and in doing so a step forward of the first significance has been made.

The step forward consists in the previous setting-up, *at* the place where the experiment will become situated, *of another space which is so structured that certain kinds of events taking place within it will inevitably become measured.*

This step marks the completed transformation of the situation of Newton's experiment from that of a qualitative experiment which produces a phenomenon, exhibits a physical effect, into an *instrument of measurement.* The measurement space is brought into being by means of another enneagram which treats the instruments involved in the experiment as material objects capable of undergoing only operations of positional arrangement, directional displacement and rotational configuration according to the three kinds of space determinations.

When the spectrometer is first taken out of the laboratory cupboard it has to be checked to ensure that the principal axes of the telescope and collimator move in the same plane perpendicular to the main axis of the instrument, about which both telescope and prism table rotate. When this condition is attained, the harmony of the spectrometer as a measuring-instrument has become realized.

It can then be used in combination with a *gauge** to provide *traces* in the measurement space of the displacements in the space which occur when the experiment is performed and the actions which realize *its* harmony have all been made.

The whole structured situation is very well symbolized for our purposes by the schematic diagram of the actual arrangement of the apparatus elements as a measurement

**Cf. Towards an Objectively Complete Language,* by J. G. Bennett, H. P. Bortoft and K. W. Pledge. *Systematics,* Vol. 3, No. 3. Dec. 1965. Sect. IV, Pt. 3, p. 220.

instrument shown in figure 20. The central point represents the central axis of the instrument. The collimator is rigidly connected perpendicular to it. The first circle represents the prism table which is free to rotate about the central axis. The second circle represents the freedom of rotation of the telescope about the same axis. The outermost circle signifies the divided circle which is the scale of the *gauge* by reference to which displacements in the measurement space are traced.

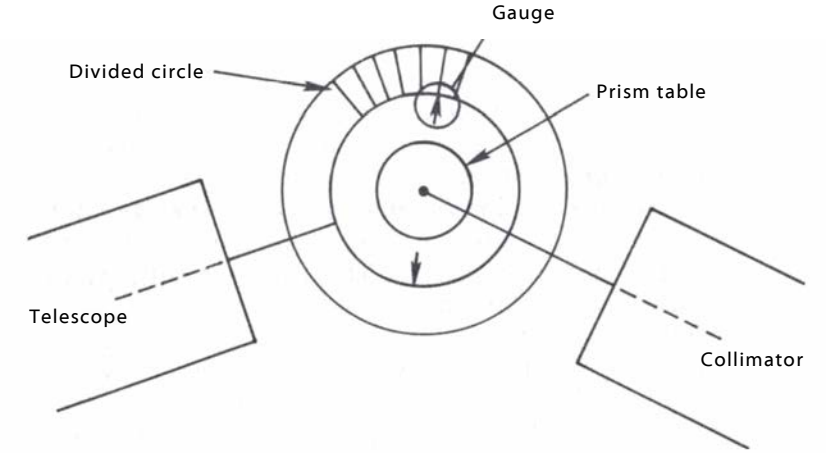


Fig. 20 / SCHEMATIC OF MEASUREMENT SPACE OF SPECTROMETER

With these observations we leave our consideration of the first aspect of patterning symbolized by the enneagram and exemplified in the optical prism spectrometer. We have not the space to pursue the study further in this paper, but it should be evident that the considerations outlined above are of far-reaching importance for the understanding of measurement as, in general, a *contrived technique* impressed upon the structure of the experimental situation.

2. *Structured Process*

When we compare the simple schematic of Newton's experiment in Fig. 17 with the corresponding diagram of

Fig. 19 for the spectrometer, we certainly discover refinements and modifications in the latter; but there can be no doubt in our minds that the main completing process is in both cases one and the same.

So we find ourselves in the fortunate position of having two different exemplifications of the same completing process. Hence we stand a good chance of eliciting, from consideration of both, their common main octave structure.

We are helped in this by yet another consideration. Generally speaking we find that the effect of all the additional complication of apparatus in the spectrometer is in fact to simplify the experimental situation. The parallel beams involved behave effectively in the same way as the "idealized rays" according to which the refraction phenomenon is usually explained in elementary textbooks. The corresponding "idealized rays" are drawn in in heavy lines on the spectrometer schematic of Fig. 19. This supplies us with yet a third "idealized" exemplification which is particularly clear in showing the features of the second process.

The Octave Structure:

When we consider these three together we are led to make the following statements about the notes of their completing processes:

First Process:

do1 The sounding of the first note of the main octave consists in the provision of a radiating light source.

re1 The second note concerns the selection out from this radiation of light which is well-defined in direction and solid angle.

mi1 The transmitted light thus defined enters the experimental domain and travels onward by expansion.

Second Process:

Interval and do2. A plane surface is interposed in its path, the normal to its surface defining some angle with the beam now incident upon it. In the spectrometer a lens at this point ensures that light from the beam is uniformly

incident. The glass surface is the second source in the experiment.

fa1 and re2. Light in the incident beam enters the prism surface and interacts selectively there with the glass (hence the occurrence of re2 here in the enneagram).

sol1 and mi2. The light is dispersed *(sol1)* and its path deviated *(mi2).* These conditions persist during its transmission through the medium.

Third Process:

Interval and do3. The second surface of the prism becomes the exit surface through which the transmitted beam emerges, eventually to manifest the effects of interactions which it has undergone. The angle of this face to the first is a determining factor. The objective lens of the telescope performs certain finalizing functions and, in particular, gathers together as one whole emergent beams of corresponding colour and deviation.

la1, fa2 and re3. In the spectrometer, the sounding and blending together of these three notes signifies the finalizing action of *"bringing* to a focus."

la1 is the condition of the emergent light as carrying with it the results of all its previous interactions in a form able later to be manifested.

fa2 is "the deviation of the already deviated" at the second prism face and, in the spectrometer, at the telescope lens as well. It is another interaction analogous to *fa1* where the incident beam interacts with the first prism face.

re3 we may take as the definition of directions which takes place at exeunt from the second prism face. The directions are directed *towards* some final or ultimate place at which each and every colour will become displayed correspondingly.

si1, sol2 and mi3. These three notes likewise correspond to the condition of the light *"coming* to a focus" in the focal plane of the spectrometer telescope objective lens, or arriving at the final displaying screen of Newton's wall.

si1 is the condition of the light as being concentrated into seven more-or-less specific definite colours.

*sol*2 is the fixation and final dispersion of the effect of the prism refraction by the formation of the whole spectrum in consequence.

*mi*3 manifests as the persistence within one well-defined spatial region of the image forming the displayed effect which is the spectrum.

do'1 signifies the image as being itself a re-radiating light source. As such, it forms the first note of another consequent octave by which it comes eventually to be *perceived*. This second octave is taken for granted in the whole previous treatment. Nevertheless, it is evident that the experiment begins from do'1 just as much as it does from *do*1. The whole is designed to provide material for observation via the display at point 8.

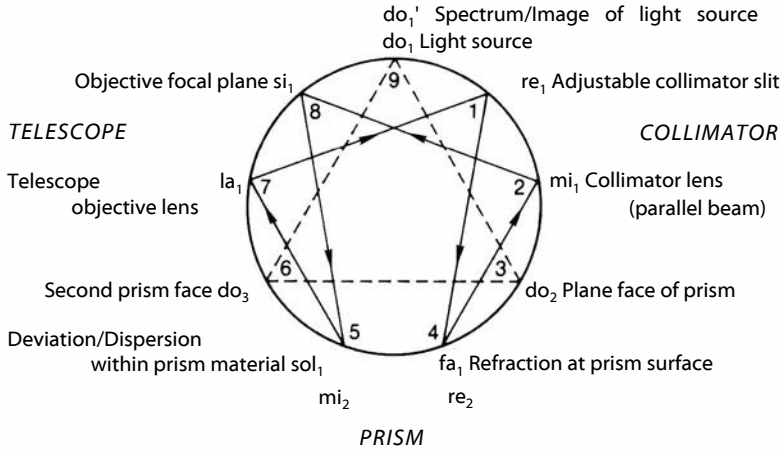


Fig. 21 / ENNEAGRAM INDICATING MAIN OCTAVE OF SPECTROMETER

The ascriptions of the notes in the octave here derived are quite precise enough for our present purposes. For the moment we need only note that the two lenses are placed at points 2 and 7 respectively in Fig. 21. We might have expected them to fill the two intervals at points 3 and 6, as indeed they do. But it should be clear from Newton's experiments that these two intervals are already filled by

the two prism faces and that therefore the lenses may quite plausibly play other roles in the whole.

It is characteristic of structuring considerations that one and the same element may play different, though perhaps closely similar, *roles* when considered as entering into different kinds of structure. In much the same way a piece of paper may in different situations serve as book-mark, a place to record a telephone number, or a dollar bill. Which role is appropriate depends upon the total context under consideration.

3. *Setting-Up Procedure*

We continue our study of the action-structure of the spectrometer by examining how the inner recurrent figure is manifested in its operation. It will be evident from the previous discussion of the same figure with reference to Newton's experiment that the *event* which comes into being at the closing of the figure refers to the setting-up of the spectrometer for minimum deviation.

Reference to the usual textbooks of experimental physics soon discloses that a standard procedure has evolved for this over the years. This procedure is always followed if one wants to line-up a spectrometer accurately with the greatest economy of action. A typical textbook of this kind* reads:

> "Before proceeding to make measurement with the spectrometer it is necessary to see that certain conditions hold true, as follows:
>
> 1. The principal axes of the telescope and collimator must be perpendicular to the main axis of the instrument, i.e., the axis about which the telescope and prism table rotate.**
> 2. The telescope must be focused for parallel incident rays, that is, for infinity.

*Wagner. loc. cit. p. 24. This book contains the practical work in optics given to officers at a U.S. Navy Postgraduate School, some of whom later "will have duty as inspectors of military telescopic instruments to be purchased for use in the Navy."

**We note that this refers to and establishes the measurement space as described above in part 1 of this section.

3. The collimator must be focused for parallel emergent rays.
4. The prism must be adjusted so that the faces which include the angle to be measured are both parallel to the axis about which the telescope and table turn join."

Wagner adds the two further conditions:*

5. (a) The axes of telescope and collimator must pass through the main axis of the instrument.
   (b) It must be possible to make the axes of the telescope and collimator coincident.

Wagner then notes that these five conditions "are to be established in the order given"; and goes on to describe the procedure of doing this in the usual way.

We may begin at this point to make correspondences with the points and connecting recurrent inner lines of the enneagram, as follows:

Point 8 refers to the first action in the lining-up sequence, which is the removal of the telescope from the spectrometer and its adjustment to focus parallel incident rays in the focal plane. This is usually done by the simple expedient of focusing on any convenient distant object. This operation connects a certain *place*—the focal plane at point 8 with the condition of various parallel beams entering the instrument: which, we notice, refers to point 5 where the deviated and dispersed beams are first present in the prism.

Point 2 is the scene of the next operation. This is the lining-up of the collimator to make it provide parallel beams. The telescope and collimator literally are "lined-up" on opposite sides of the prism table while the operation is performed. This establishes the line 2-8 in the figure. The entering beam for the experiment in any case becomes defined at point 2, so there can be little doubt of the correctness of our ascription here.

*We note that this refers to and establishes **the measurement space as** described above in part 1 of this section.

Point 4. The first prism face is then lined-up so as to become parallel to the axis about which telescope and table turn. This is done by a rather complex set of adjustment operations which take longer to describe than to do. In these operations, both telescope and collimator are used in conjunction with the prism face, itself acting as a reflector. We note that it could not be done if telescope and collimator were not already aligned. Completion of the operation really establishes the line 4-2 by which the collimator beam stands in a well-defined perpendicular relationship to the first prism face.

Point 1 is the collimator slit itself, which is adjustable. Up until this point in the sequence the experimental operation which produces the phenomenon has been in the background. It now begins to make itself felt and the collimator slit is made as narrow as is required. In these earlier setting-up operations plenty of light has been an advantage; now it has served its purpose. In making this observation we distinguish between the inner lines 1-4 and 7-1, and find how naturally the sequence moves along the zig-zag path of 4-1-7.

Point 7. We may regard this point as the point or place in the experiment at which the experimenter *enters into or intervenes in the workings of Nature.* It is at this point that the subtle and delicate operation is performed by which, in this experiment, the phenomenon of minimum deviation is actualized. We have already referred to the beauty of this achievement. It is a synchronizing operation which, once again, is better and easier to do than describe. But it very clearly illustrates the action at this point 7 by which all three interacting processes are brought into a single harmony of synchronous adjustment.

The collimator is fixed in position, thus ensuring the establishment of the first process. The prism and telescope which are the instruments of the other two processes are then used together in one single operation with respect to the image of the slit in the focal plane. This operation consists in coming to precisely the same condition as did Newton, for the image moves first towards and then away from one unique defined situation which occurs at the

position of minimum deviation. With all its immense accuracy and precision, the setting-up procedure culminates in the same simple harmonizing *act* that Newton described by:

> "Between the descent and ascent, when the image seemed stationary, I stopped the prism, and fixed it in that posture, that it should be moved no more."

We see this operation as the establishment of the zig-zag line 8-5-7 in this figure.

Point 5 is the place where the material of the prism and the prism angle determine the dispersion and deviation of the refracted beam transmitted through it. In coming to the position of minimum deviation through the operation at point 7, the phenomenon is brought into a condition at which a particularly simple relationship holds between the nett deviation of the coloured beam for which it is established, the prism angle, and the index of refraction of its material. All these three have reference to point 5 and *determine* the final setting position at minimum deviation. Hence the setting-up sequence terminates at this point.

We ask ourselves why the sequence should begin at point 8 and work backwards along the sequence against the direction of the arrows given by the recurrent decimal 142857.... An answer would seem to be that, unlike Newton's experiment, which is a pure manipulative experiment to produce the phenomenon, the spectrometer is a *measuring instrument* and the inner lines have already been traversed in lining-up the instrument to produce the calibrated measurement space. This is one possible explanation worth exploring.

Another is that from the point 8 the enneagram shows the main completing process of the experiment as connecting-up to the second enneagram which involves observation *via do1.* If a photographic plate is placed in the focal plane of the telescope the instrument becomes a spectrograph. When the plate is exposed and later developed and fixed and the spectrum it depicts is studied, the studying will begin the new enneagram and will necessarily involve the ex-

perimenter in a much more cognitive role. So, however the experiment carries on from point 8, it has to be tailored to fit this final end of producing the displayed spectrum. Hence the various steps of adjustment begin from point 8 and work back around the zig-zag figure.

At this point we leave the setting-up sequence and carry on to the next and final section of this part of our study. It will be evident that the attempt to demonstrate the role of the recurrent figure in the experiment could be carried to almost any depth of detail and precision. The beauty of the general symbolic method comes largely from its use as an instrument for studying situations *in depth.* There is no end-point at which we can terminate our enquiries with the assurance that there is no more to be discovered. There is always more to be seen, always more to be grasped and understood. The only limit is set by our own will to seek for what is there to be found.

4. ***Three-Fold Structure***

We come finally to study the spectrometer in some of its three-fold aspects. Since the spectrometer is designed as a three-fold instrument this is an almost inexhaustible task. Since, in addition, the inner triangle of the enneagram has an unlimited wealth of meaning, we shall again be compelled to select from the variety of exemplifications available a few of particular interest for our present study.

Collimator- Prism- Telescope:

The triad set up by the three sub-instruments of the spectrometer is an obvious first choice. Very much can be learned from it of the workings of the triad, the structure of relatedness. It will have become apparent that the whole experiment is symbolic of the structure of relatedness, down even to the triangular shape of the prism which makes the experiment what it is, and was for Newton.

The triad of collimator-prism-telescope is not established all at once at the beginning of the experiment. It becomes established only when the position of minimum deviation has become achieved - exactly as in Newton's experiment. However there are certain refinements in the

manner by which it comes to be which are of interest. So we can profitably examine its establishment by degrees, following the way in which we studied it in that first experiment.

Referring to the enneagram, Point 9 sounds its two notes *do1* and *do'1* in the spectrometer when the collimator and telescope have been given such a perfection of adjustment within the measurement space that they are exactly matched. This occurs for the two sub-instruments in two roles:

1. As extended material objects playing roles in the triad of the measurement-space, they have previously to be lined-up in such a way that: "It must be possible to make the axes of the telescope and collimator coincident."*

In this condition they coincide as potential angular measurement-objects and express the *do1* and *do'1* of the measurement enneagram.

2. The initiating and completing notes of the experiment sound as one when the *image* of the radiating light source formed with light transmitted through the collimator slit is brought into focus in the focal plane of the telescope.

Once established, this is a condition which *recurs* throughout the experiment in all the setting-up operations. It is fixed once and for all, as far as the experiment is concerned, only when that inner harmony becomes realized by which the recurrent figure is synchronized into one whole and the triad is established.

***Three Impulses**:*

When the prism is placed upon the prism table the third role in the relationship enters the scene in embodied form

*Wagner. loc. cit. p. 25. Spectrometer adjustments.

**For further elucidation of the three impulses and the manner by which they enter into different modes of combination the reader is referred to *The Dramatic Universe*, by J. G. Bennett, Hodder & Stoughton, 1961, Vol. II, Part 11, p. 69. ff. The Triad— *Will*.

and we are able to speak of the three relational impulses which the three elements transmit:

1. The collimator transmits the affirmation of the existence of the source of the first process in the experiment. The *fiat lux.*
2. The prism transmits a denial through setting-up conditions by which the transmission of the light from the first process becomes opposed, limited and subject to fragmentation.
3. The telescope, when used as a third instrument in relationship with the other two, becomes able to transmit the means of reconciling them which is, in the last analysis, the free and independent reconciling will of the scientist as experimenter—by virtue of which he can perform intentional actions involving *progressive approximation.*

Perfect Reconciliation:

The prior condition at which the telescope and collimator are perfectly matched corresponds to the condition of their perfect reconciliation—complete receptivity combined with total donation. It is possible only when the two are not committed in any way to participation in the interaction for which the prism acts as a denying source. The moment this denying source enters the situation, the point 9 becomes the triangle 3-6-9 in the symbol and the perfection of the reconciliation becomes compromised by denying elements.* This corresponds to the establishment of three distinct kinds of process:

Three Kinds of Process:

1. The function performed by the collimator so clearly typifies the outgoing process that it deserves the name of *paradigm* in this role.

*We note that when the reconciling source enters fully into the situation there is the completion of the inner recurrent figure and the triangle 3-6-9 becomes the pattern 1-4-2-8-5-7.. .endlessly recurring. We have not the space to pursue this observation further here. It signifies the establishment of a permanent hold upon existence for the event concerned, through perpetual *renewal.*

2. The prism likewise typifies the second process which provides the field of interaction, and sets up the *condition of* denial towards the first process.
3. The connection of the telescope with a finalizing role has been already sufficiently stressed earlier in this paper. It is likewise a paradigm in typifying the returning *concentrative* process by which a final image is formed.

Power of Reconciliation:

It is a mark of the fineness of quality of reconciliation expressed by the instrument as a whole that it can perform measurements to an extreme degree of precision. If we look to see how this quality enters the machine, we see that it all turns upon the provision and manner of use of the parallel beam.

The parallel beam presents both collimator and telescope with a common mediating power, or free energy, which is at their disposal. The collimated beam is an *already reconciled* entity. It therefore has the power to *engender* harmony into the situations in which it participates. In the spectrometer this shows itself in the smoother manner in which the light passes through its intervals in completing the main process of the experiment. It is *helped* into the prism. The deviated light is afterwards *eased* into position at the final image. There is more *harmony* in the spectrometer as the place where Newton's experiment takes place and the experiment is more perfectly performed than Newton's as a consequence.

VI. Transformation

The process of qualitative transformation by which the steps of the completing processes *transform* one into another is triadic. It is expressed by Gurdjieff in a deceptively simple generalized formula as follows:

> ***"The higher blends with the lower in order to actualize the middle and thus becomes either***

> ***higher for the preceding lower or lower for the succeeding higher. "****

We can express the action of transformation by reference to some of the steps we have already elicited in the main completing process common to Newton's experiment and the spectrometer. Thus:

Entry of Light into the Experimental Domain

> The light radiated out from the presence of the source (*do1*) blends with the slit and its surrounds (*re1*) in order to actualize the beam transmitted through the slit and thus becomes an expanding cone of light (*mi1*) well-defined in direction.. .travelling towards the prism face.

We begin to see from this formulation just how down-to-earth these expressions and notions of generalized structure are. We are familiar in our everyday lives with the structuring of light falling upon slits and take it for granted. In fact, we make many more assumptions about the ubiquity and pervasiveness of generalized structuring than we usually realize. We are accustomed to assume as a matter of course that the world is "logical," "coherent" and "consistent"—and these are assumptions about generalized qualitative structure.

It is noticeable, also, that this kind of picturing of situations and what is *going on* in them is precisely what we come to when we consider the world as a place for action. In this world we as scientists set up experiments, make adjustments, take readings, produce and interpret records of results and diagrams of apparatus. The world of practical science is a world of *transformation conceived of in this kind of way.*

We continue with the expression of the transformations involved in the experiment in these terms as follows:

**Cf. All and Everything,* p. 751: "A new arising from the previously arisen through the 'Harnel-miatznel'." The higher stands to the lower in the relation of a greater activity for the situation. The lower is always more passive than the higher.

Incidence Upon the Prism

> The light present in the well-defined conical beam *(mi1)* travels towards and blends with the presence of the plane surface of the prism face *(do2)* in order to actualize an incident beam *(fa1)* interacting with the glass.

We can also express in this way the effect on the octave of the intervention of the collimator lens into the completing process. Thus:

> The intervention of the collimator lens into the first interval of the main completing process assists the blending of the incident beam with the prism face by previously itself blending with it in order to actualize a uniform parallel beam whose light may... etc.

The correspondence in *form* between Gurdjieffs generalized formula and the way in which we commonly understand these kinds of transformation is remarkable. It is clearly a means of expressing the structure of transforming situations whose depth is limited only by our ability to penetrate into and *see* what is going on. We can pursue the processes into the prism. Thus:

Refraction Into the Medium

1. The light present in the incident beam *(fa1)* enters the medium through the prism interface *(do2)* and blends with the material of the glass in order to actualize an interaction and thus becomes a dispersing cone of light (*sol1*)...travelling towards the second prism face within the medium.
2. The presence of the plane surface *(do2)* blends with the material properties of transparency and opacity of the glass (*re2*) in order to actualize an interface which shall evenly refract and uniformly deviate into its interior *(mi2)* the light paths of beams incident upon it.

Dispersion we ascribe to the light itself and therefore to the condition denoted by *sol1*. Deviation being an effect of the prism material we ascribe to *mi2.* Snell's law, of course, comes in at this point, when the phenomenon is related to a measurement space.

Valediction

Here we may leave the main completing process at a very appropriate place for the reader to begin to complete the final expressions for himself. Much of the preliminary ground has already been covered and sufficiently excavated in the second section of this last part.

The exposition given above in this paper of the correspondences which may be found between the various structurings expressed by the enneagram symbol and features of the structure exemplified by the experiments considered may seem somewhat arbitrary and unconvincing on a first reading. The determined and experimentally-minded reader is invited to consider for himself the correlations to be discovered between the symbol and the most economical practical procedure followed in *actually performing* that well-known elementary experiment by which the index of refraction of glass is determined from a sample in the form of a rectangular block—pins, paper, pencil, ruler, protractor and all. There is a stage in this procedure at which the experimenter finds it necessary to move his eye right round from one face of the block to the other in order to finish plotting the course of the "idealized ray," defined by the lined-up pins, after refraction through the block. The reader should find, after only a little difficulty occasioned by the unfamiliarity of the symbolism, that this can be easily and convincingly correlated with the (2-8) line in the zig-zag inner pattern. Consideration of the vital role played by the eye in that experiment, in conjunction with the use of his spatial freedom by the experimenter, is particularly illuminating. In that experiment, as with Newton's, it is the experimenter himself who contrives the setting-up of the measurement space. It is not automated into the apparatus as it is in the spectrometer.

VII. Concluding Remarks

I have endeavoured in this paper to demonstrate *empirically* the applicability of Gurdjieffs generalized enneagram symbolism to a piece of scientific work. I am

sufficiently familiar with the work in question to be able to bring both it and the symbol into direct contact. To my mind this is almost certainly the only possible way to come to some understanding of what this generalized symbol really is about.

We talk about the power of mathematics, but more generally any symbol which refers to the structure pervading a real situation has power when used in relation to that situation. The structure or patterning to which the enneagram symbol refers is so extremely general that its power as a device for *coming to understand structuring* in all kinds of situations must be virtually unlimited. I have no doubt that this was one of the purposes for which it was originally created.

The enneagram is a device, in its use a method, for coming to understand general structural principles. The study of their exemplification in particular situations leads one to a new view-point which is *anti-temporal.*

Structure is timeless and refers to that which remains beyond the actualizations of temporal process. Processes actualize temporally in accordance with patterns - which are anti-temporal because they remain preserved and untouched, *unmodified* by the changes which take place successively in time.

The enneagram points to a world which is already present but virtual. A world which is ordered, structured, patterned - latent with forms of meaning already waiting to become realized in the actualization of existing situations. The symbol thus expresses the *latent patterning of the present moment.* *

The symbol is an obvious representation of the structure of a perfectly co-ordinated process actualizing within a present moment. This is symbolized by the structural figures confined within the circle. In an experiment the central point about which the circle is circumscribed is *the will of the scientist S* by reference to whom the whole experiment comes into existence, is set up, adjusted, mea-

**Cf. Towards an Objectively Complete Language,* by Bennett, Bortoft and Pledge. *Systematics,* Vol. 3, No. 3, 1965.

surements are performed. . .All that is compatible with the performance of that particular experiment has its place within the circle; all else is excluded by the initiating decision of S. Thus the circle initially symbolizes the *compatibility* bracket set up by that act which separates the relevant from the irrelevant. The setting-up of the inner triad symbolized by the triangle corresponds to the establishment of a *compresence* with the basic apparatus-as the prism establishes the refraction effect by its compresence with light-source, slit and screen. The state of *coalescence* comes about when the inner recurrent pattern is closed. The three kinds of linkages refer to the points at the comers of the triangle. The three recurrent elements can be ascribed to the three kinds of processes involved and hence to the three sides of the triangle. The symbol which denotes within-ness has a two-fold meaning as the connection of circumferential points with the centre and also the area contained within the circle. But once again we must beware of trying to tie down meanings which are really many-to-one. The advantage of the enneagram symbol as compared with other means of representation lies in its ability to communicate the structural connectednesses immediately and unambiguously.

I hope to have shown in this paper that the enneagram symbol is directly relevant to the scientific procedure. But science is only one of the fields in which human beings engage themselves with a view to achieving purposes. Wherever there is something to be done, there is, if it is worth doing, some value to be realized in the doing of it. Satisfaction comes when the situation within which our efforts are applied transforms from struggle into harmony. When that happens something has both made and found its proper place within the existing world.

Appendix II

The Sermon on the Mount

M. he first thing that is said in the Sermon on the Mount is that a separation took place. There was the multitude and there were the disciples, and in order to separate the disciples had to climb up into a mountain. This represents the difference in level between life and the Work. The Sermon on the Mount is certainly addressed to people who wish to work. Many times in this Gospel Jesus says: "I speak to you in one way; I speak to them another way. I tell you plainly about the Kingdom of Heaven and I tell the people in general by means of parables, indirectly." Here He was dealing only with the disciples and he spoke to them directly. The picture has to be in our minds that the Sermon is addressed to people who work, who have the intention to work. And clearly, if it is addressed to those people, it is intended to be accepted and acted upon by them, which is emphasized by the final passage in which He says: "He who hears these words of mine and does them, it is like building a house on a rock." So, as clearly as possible it is stated that the Sermon on the Mount is a practical document intended to be taken as a way of life by those people who were disciples.

If we ourselves wish to work, we must ask ourselves whether this document, or perhaps a modem equivalent of it, represents for us a way of life. Only a small part of the Sermon on the Mount is concerned with the inner life, with inner world demands: the Beatitudes. Why are they put at the beginning? Because they represent the test, the condi-

tions. If you will accept these as what you are committed to, then read on, then the rest of this applies to you. Otherwise not. If this corresponds to your inner state, now — or if you have got the seed of the possibility of being like this - then what I am going to say applies to you.

The first and last of the nine Beatitudes refers to the conditions for what Christ calls the Kingdom of Heaven. What does the Kingdom of Heaven mean? He does not say the kingdom in Heaven, or the Kingdom in some other world. The Kingdom of Heaven is clearly a state of affairs in this world. He begins by saying: "Blessed are the poor in spirit: for theirs is the Kingdom of Heaven," which means: "Blessed are those who have seen their own nothingness," those who are empty. They are the people who are able to enter.

To arrive at the point of seeing one is nothing requires a lot of preparatory work all of which is presupposed, just as the disciples go up to the Mountain and the whole exposition does not begin until they have climbed the Mountain. The first indication of having climbed the Mountain is to recognize one's own nothingness; from that point everything can begin. So long as one is burdened by the illusion of having something-having something to protect, having some spiritual wealth, one cannot begin. He makes it clear

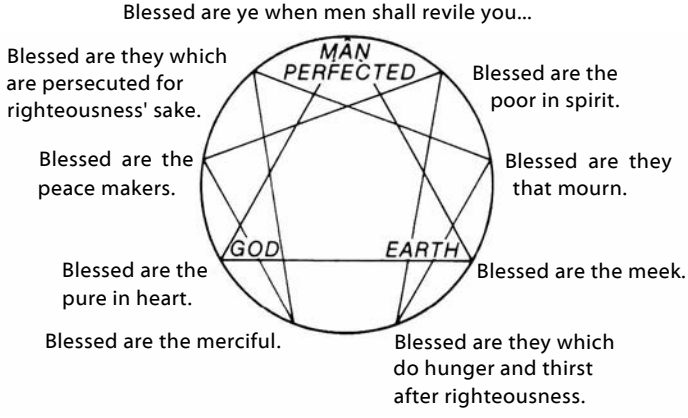


Fig. 22 / THE SERMON ON THE MOUNT

that He is not talking about poverty in the material sense, but in the spiritual sense; one does not have anything of one's own, one has no 'I,' one is not awake. This realization represents the threshold of this work of ours. The starting point for everyone coming to this Work is the realization that we have no spiritual possessions. This brings the awareness of being separated which is represented by "mourning"-"Blessed are they that mourn."

When we bring our attention to the wish that comes from the sense of separation and the need to find our source again, this leads on to hope: "for they shall be comforted." In Greek it is very beautiful. It was probably written in Greek and therefore Greek is the language in which to understand it. *Makarioi hoi penthoontes, hoti owtoi para-klaythaysonteye.**

The next Beatitude is translated: "Blessed are the meek: for they shall inherit the Earth." This is the key to understanding everything that is going to come afterwards. A new world is to be built. The Sermon on the Mount is about a new world, about leaving behind the old world and building a new world on gentleness.

Each one of the Beatitudes gradually unfolds the picture of the kind of state that must be reached in order to enter the Kingdom of Heaven.

I said before that it is only the early verses that refer to the inner state. From then onwards it is very noticeable that almost everything is about the way we live. It is a document that refers to a community, how people will live together in this new world. There is very little in the Sermon on the Mount that is about our private lives: nearly everything is about our lives within a community. This community will have to suffer because it is going to be a stranger in the world. This is made clear many times. It is finally put in quite specific terms: "Blessed are ye when men shall revile you and persecute you and say all manner of evil against you, falsely, for My sake." Such is inevitable, because this community is to be a stranger in the world and its ways are not the ways of the world. But this has happened before,

*This is a phonetic version. Pronounce as for English spelling.

and you are not to be dismayed by this because it has happened whenever there have been people chosen for a special task as the prophets were. Whenever people were called upon to perform spiritual tasks in the world, the world never accepted them. It is what is said here and, of course, said many times all through the rest of the Gospel. "So persecuted they the Prophets that were before you." That is the attitude with which you should come.

Be prepared to give. "Blessed are the merciful."

Then, of course, the big thing, the hard thing comes: to be pure in heart. This really goes beyond knowing one's inner emptiness which is in the first Beatitude, it is when this emptiness has been accepted and there is no longer a striving to fill oneself with things, when one consciously makes oneself nothing. Then comes the time when the Third Force can work, the Reconciling Force. "Blessed are they who construct peace, who make peace." The making of peace is the work of the Third Force. That is why they are called "Children of God," because God is the Third Force that now has been bom in them. But they will have to suffer, so it comes back again to: "Blessed are they that are persecuted for righteousness' sake" and so on. In the first and last, the Kingdom of Heaven comes in.

If you really meditate on the Beatitudes you see that collectively they represent an attitude which allows the person who is like that to be filled with the Divine Working. Why is all this? What is it all for? Because they have to manifest. So there follow at once references to the "salt of the earth" and the "light of the world." There is the *manifestation* that is required. That is stated clearly at the beginning. All sorts of things will have to happen in order to make this possible, but this is what you are here for. If you have not got this right, then whatever else you may think of, you are good for nothing, you should be cast out and trodden under the foot of men. You have to have that flavor, you have to have that taste of salt about you, you have to have that light showing from you, people have to recognize through you the working of the Third Force.

Then how is this new world to come about? Is it to come about by destroying all the old institutions, killing off the

dinosaurs? No, they will be left-all this has got to work itself out and will work itself out. There is no need to concern oneself with the old institutions; all that has got to work itself out and be finished with. New has to arise. That this is something new is said all through the rest of this chapter, "It has been said by them of old time." The old world was like that, the new world has got to be a different kind of world where things are bought and sold.

You have got to have this kind of standard in your community, you are going to live differently and your relationships are going to be of a different kind. All the rest of the chapter is about the transformation of relationships which belongs to the new community. In the old world was the principle of not killing, but here you replace it by a principle of acceptance. Accept your brother; make peace with him. It is not sufficient to abstain from harming, it is necessary to discover a positive attitude. Simply keeping rules of not harming and killing and judging and so on is not enough. Your community will not hold together on the basis of rules, it has got to be on the basis of an attitude.

I have spoken before of one interpretation of: "If thine eye offend thee, pluck it out." When I spoke about "chief feature,"* I said that this is a cause of offence to us and to others, but it is not by destroying but by an act of separation or not identifying that we liberate ourselves. We have to be able to look with an eye that does not offend; we have to be able to act with hands that will not offend.

The relationship between men and women has to be different in this community; they have to see that it is not an external relationship in time, which can change in time like everything in time does change, but a different kind of relationship. They must always look for this "other quality" in life, but not by means of rules, contracts and the rest of it.

The new way goes much further, much deeper than anything before by not resisting evil, nor even trying to put things right. This could not be understood except in the search for an ideal community. To allow oneself to be

*The individual characteristic that denies or blocks out the Whole. The reference is to group meetings not recorded.

imposed on is the secret of a community that can withstand pressures and be transformed: no one to insist upon his rights or her rights but to allow themselves to be imposed on, or to be made a fool of. This has to be learnt as a way of life. This is one of the things where it begins to look very hard. People will say: "But how can we do this? If we always give way, where will it all end? We shall be just trampled on, made into slaves." "Yes," He says, "that is true enough about the world, but not in this community, not here."

This way of life has only one rule: the rule of perfection. Everything else is insufficient for it. He finishes with: "Be ye perfect as your Father in Heaven is perfect." Who is the Father in Heaven? Where is this Heaven? Certainly the disciples perfectly well understood that Heaven was not a place somewhere; they perfectly well understood that in every one of us there is Heaven. And there is a Heaven which we share, only we shut ourselves out from it.

The Father is ourselves; that part of us which is in the unconditioned world is the Father: from that we have come. We must mould our lives according to the pattern, the dharma, of our real being, obey and accept our dharma.

The whole of this chapter consists just of illustrations of the way in which we will require to live if our community is to work. What were such communities? At that time there were many communities that were being formed not only by Christians, but other also. There were Mithraic communities and there were communities of the old gods. But the Christian communities were setting themselves a certain task: they were all standing before the prophecy of the end of the world. They were expecting the old world to die and the new world to come, and they were to prepare themselves for that. Some communities, particularly the ones in Syria, misunderstood this because they thought that one should abandon all interest in life. They were being told that you must not marry, there must be no relations between men and women, you must abandon everything because none of this has any relevance for the world that is to come. But nowhere for those for whom this document, this legominism, was constructed, is there suggested that one should not

marry and continue one's normal life and fulfill all one's outward obligations. Only they were to get a certain strength which could only come by their own way of life, their own communal way of life, so that they would be able to withstand.

Of course, the strains and stresses did come. The communities were persecuted and many people were martyred. An extraordinary strength was shown all through the second century, when without it the seed would have died. You must understand that this was a very far-seeing preparation for a time of trouble that was coming. Without setting themselves these high standards of work on themselves and of acceptance of one another, they could not have withstood it, not only because they would not have had the support of one another; what is more important, they would not have had the necessary energy. It happened very often that these communities escaped being destroyed and anni-; hilated, against all odds. For the most part, these were in the Jewish communities of the Diaspora, the dispersion after the destruction of Jerusalem in A.D. 70. There was a great congregation in Alexandria and the coast of Egypt. Jerusalem had been virtually wiped out at this time. For the most part the Jews returned to a very strict way of life. They took refuge in the Law. When the temple was destroyed, the Law became their temple. They maintained a very high standard of life and they were also constantly persecuted and in danger. Their way was to go for a very strict observation of the Law and preservation of everything that belonged to their life. This also preserved them and they survived this time of trouble, but their role was different. The communities following the Sermon on the Mount were after something different from rigid observances.

Within the community, those who have must give and work for those who lack. Therefore the first thing that has to be looked at is, how does this giving and taking come about? There is the law of almsgiving: you have to give a proportion of your possessions to help the poor, by the sacred law. But in what way? This is not a thing to be seen by people, this is not where you are to be a light, a different manifestation from that is required. Therefore, it is not to be

done in this way, to be seen by people. At first it looks as if there is obviously a great contradiction between the saying: "Let your light so shine before men, that they shall see your good works" and: "See that you do not give your alms before men to be seen of them." Anyone can notice this contradiction and many other contradictions. How this light is to shine is not through these visible actions, not by observance of laws and customs, but by what it is that emanates, what it is that this community has in itself. This is the secret part of the Work. Very simple rules are now beginning to come in - or rather principles are being explained, not rules of conduct.

For example there is the principle of the two stages of work. When someone makes some kind of work effort or work sacrifice, the reward for this is to be put in front of some temptation, which means the possibility of doing something different. In this case, the temptation is to be appreciated for having given alms. The real work here is not really in giving, but in not expecting to be thanked for it. That is where freedom lies: to give in such a way that one will not be thanked or appreciated for giving. Learn that secret and then you will have made a connection with the Father, with the inner world, the inner being. This also applies to the other examples given, about praying, about fasting.

The second chapter of the Sermon on the Mount is throughout concerned with how to reach the Kingdom of Heaven, how to become such a community. These are the secrets, these are the methods that you have to be ready to use: hide your work as much as possible to contain the energy that comes from one's efforts, from one's sacrifices; do not feed on it but allow it to accumulate and build up. Then it begins to be shared and other people begin to participate in it; then it is that we are able to do something, really to help other people. This action is described at the end of the prayer "Forgive us as we forgive others." To talk about the Lord's Prayer in detail is a big thing but I will say a few things about it.

The first thing one has to ask oneself is what is meant by "vain repetitions" as used by the heathens. This sounds as if it was just a kind of rejection of the Mithraic cult which used a great deal of mantrams. What is a vain repetition? Vain really means empty of substance. There has to be an actual material substance of prayer: it is made of something.

There is also the question of what is meant by Father. Why *our* Father? Why not *my* Father? The prayer is a communal prayer, there is no I in it, no first person, it is always *our* Father, *our* trespasses, our daily bread. It is a prayer for a community. But what is "Father" in this? What does it mean? It means that this world in which we are living has its origin in another world. One must never think that this is the original world, that this is where it starts. It is not so - it all comes from another world. This is why it is said "Who art in Heaven"-not here, because this is not where it starts. It starts on the unconditioned side. As it is said by one of the Apostles later on - about the same time the Sermon was written-"Every good gift comes from above, from the Father of Light." It comes out of the unconditioned world, which our knowledge cannot reach, which we cannot penetrate and have direct experience of, therefore we make this acknowledgement. It is why we speak not of God, but of the Father; and not of the Father but of the Name. We cannot go beyond the name, or the image. We do not know what is behind this image. This is really the first thing that is made clear here- where we are called to, where we come from is beyond this world of body and mind. We have not access to it, we can only believe that it is there. It is presented to us only as an image. All sacred images are only images of the Name that we are blessing. But then, how is it that we ask that the Kingdom should come? Because the Kingdom has to come into this world, it has to appear and establish itself here in this world. This is what is said clearly here and elsewhere. That was the teaching; that is what they were taught, how they were taught to look at it. There is the pattern, the dharma, in

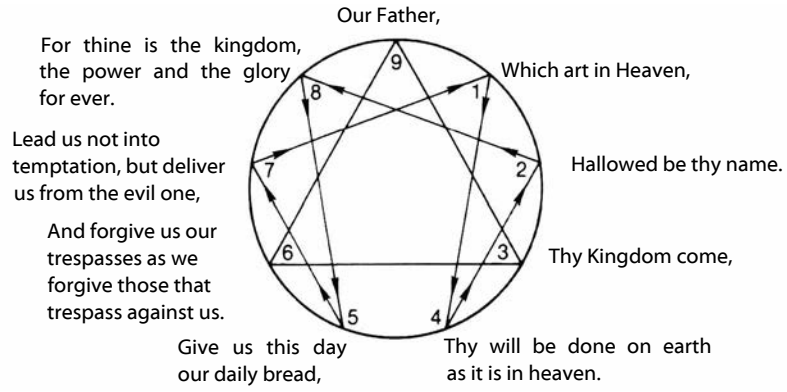


Fig. 23 / ENNEAGRAM OF THE LORD'S PRAYER

Heaven, on the other side. Here it is to be accomplished- "Thy will be done on Earth"-here in this conditioned world.

Many people have questioned what is meant by "daily bread." It has been translated in different ways from the Greek, sometimes words that mean the higher bread, the super-substantial bread. It does not matter. Some way or another we need food, all kinds of food. But some food comes to us from the unconditioned world, which is the food that we cannot collect for ourselves, that we cannot prepare, that has to be given to us.

Then there is this notion of acceptance of one another, forgiveness of one another, which we put down as the condition for the possibility of our being related to the other world; so long as there is rejection, as long as we reject others, we are rejecting the way to the other world. The same prayer appears elsewhere, but there it is underlined by repeating over again: "If you don't forgive you will not be forgiven." Let that be clear, because you cannot have the community you are looking for on the basis of demands made upon one another.

If you study this middle chapter of the Sermon on the Mount, you see that it is all about the relation between the conditioned and the unconditioned world. It says so in

almost so many words: "Don't lay up for yourselves treasures on Earth, but in Heaven." Earth always represents the conditioned world, Heaven always the unconditioned world, the two sides of our nature. Everything is about how this divorce between the two sides of our nature is to be healed.

Then comes something which is very relevant for us and one really has to ponder on this a great deal. In the rest of this chapter are many references to not taking thought, not planning. He says there are two ways of living, in effect: one way of living is to trust the pattern, to trust the dharma; the other way of living is to trust your own capacity for calculating. If you choose to calculate, then you put yourself under the laws of this Earth. If you are prepared not to calculate but to trust the laws of dharma, the pattern of things, this will then take care of you. This is the kind of community you have to form; a community that is based upon trust in the pattern, trust in the dharma, not trust in your own capacity for calculating. Look how absurd it is: can you by any calculation add an inch to your height? Can't you see the limits of human calculation? This is how the world is trying to run; it is trying to run on calculation, on planning and preparation, on confidence in the working of natural laws and with quantitative knowledge to adapt the world to your liking, to gain control over it. The advice is perfectly clear: that is not how the community is to work - it is to work on the basis of confidence in the dharma, in the pattern.

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