THE PSYCHOSOMATIC CONCEPT IN PSYCHOANALYSIS

SAMUEL ZACHARY ORGEL, M.D. *

In discussing “psychosomatic medicine” we are thinking of this concept in relation to psychoanalytical thinking. We are not discussing disease entities from the medical point of view, but elements of psychophysiological functions which begin with fetal life, and which continually remain active during normal psychic and biologic development throughout life. Thus we are not dealing with the problem of psychogenesis, but rather with the problem of “specificity of the psychosomatic process” and of “the choice of the organ.”

If one views this in the light of current psychoanalytic theory it is in terms of ego psychology. We must at the outset accept the fact that a psychophysiological process cannot be initiated de novo in the mind. Mental events in both health and disease have become links in the psychosomatic chain of events. Thus a structural, functional continuum exists between the mind, body and environment which contains nodal points at which occur transformation of energy. This special class of sharply defined clinical entities are then viewed as syndromes which have a variety of pathogenic mechanisms.

Idealistically, all bodily states in health and disease are psychosomatic in that a psychological factor of varying intensity is present. It has become customary to apply this term to a group of diverse clinical entities such as asthma, ulcerative colitis, hypertension, neurodermatitis, duodenal ulcer and a host of functional disturbances without fixed anatomic pathology. These illnesses have in common the fact of psychological features which appear to be significant as etiological factors. All of the psychosomatic disturbances, when observed clinically and experimentally, appear to have at least two phases. The first is functional and consists of reversible disproportionate or inappropriate motor, secretory and vascular responses in an organ or in its constituent tissues, e.g., hyperfunction, hypofunction, perversion of function, and synchrony or asynchrony. The second

* Preceptor, Mt Sinai Hospital, Institute of Psychiatry, New York.
phase is the establishment of fixed tissue changes which may be reversible in the sense of the body economy but which usually leaves an altered tissue. During this phase the functional phase continues in an obscured or distorted form by the effects of tissue pathology and by systemic reactions to them, such as fever, anorexia and loss of weight. The new bodily situation introduced by the secondary phase causes secondary and reactive psychic responses to develop to which the psychophysiological economy must adapt. In the first or functional phase we must consider these physiological factors in terms of the principle of homeostasis. In the neonate we find a high degree of tolerance without damage, but it contracts rapidly with age to a relatively narrow range, with maturation there is a shift from local autonomous organ behavior and reflexes towards centralization and coordination by the central nervous system. The mass reactions of the newborn are gradually transformed into selected patterns which are more economically related to resolving bodily needs.

This process of a change from local tissue autonomy to organized central regulation parallels the infant's development in relation to his environment. In the neonate the initial development phase is characterized by a basic unity between it and its environment. The environment operates for the infant as though it were an involuntary organ in its body. The baby's hunger cry which activates his mother to nurse him acts like an internal humoral stimulus which initiates an internal restitution. It is in this early stage that the primary affects of tension and gratification become manifest. This somatic conception of the ego boundary for organ function enters into the psychophysiological adaptation of patients who in later life become aware of previously unconscious bodily functions.

In this involuntary psychophysiological phase the infant has no purposeful control of either his bodily or his environmental functions. Sleep is equilibrium, psychomotor activity is disequilibrium apathy is pathological equilibrium and indifference to gratification is seen as in anachritis depression.

In general the environment tends to resist developmental change in the infant, which it does by its delay in recognizing the infant's changing needs. This resistance is also evident in the failure to interpret a psychophysiological regression as occurs during teething, infections and trauma. These retreats are temporary and are associated with attempting to retain the old gratifications before assuming the as yet unexperienced satisfaction of the next stage. Each development suddenly confronts the infant with an increasing separation. He suddenly discovers that he is initiating this separation. This new ego boundary reactivates the original enforced weaning anxiety. The infant attempts to cope with this by means of a psychophysiological regression. If these regressions are recognized, tolerated and supported, they are self limited and advancement continues. Opposition produces prolonged regression and sets up a pattern of reactive anxiety to progressive change. This results in psychophysiological reactions of avoidance and rejection; e.g., vomiting, diarrhea, abdominal pain, clumsiness, enuresis, encopresis, as well as to autistic psychomotor behavior. This points up the need of the confluence of psychophysiological development within the baby and of environmental conditions.

With central integration by the central nervous system, the uniform psychomotor response to a large variety of disparate and unrelated stimuli, brings with it the capacity to discriminate and differentiate stimuli and response on the one hand and needs and gratifications on the other.

As sensorimotor development proceeds, together with the rudimentary ego boundary, purposeful behavior becomes manifest. The infant uses his motor and sensory both as an independent means of pleasure and as a defense against deferring the gratification of other instinctual needs. The voluntary control of the biological development and environmental participation may be precociously induced, or unduly deferred. Between the total involuntary non-ego functional state of the newborn and the relatively mature purposeful state of the three year old, are those structures and functions which have both voluntary and involuntary innervation. The effort to control function in the interest of adaptation occurs in the first three years of life. This corresponds to the dominance of the involuntary functional and the narcissistic phase of development. The ego develops progressively but is not yet ascendent. The libidinal stages of orality and anality and the anlagen for further psychic differentiation are established in this period.

When the development begins to include the capacity for object relations, the structures and functions involved are more
related to mastery of objects and circumstances in the environment. Libidinally, this corresponds to phallic, urethral and genital stages. Structurally, the ego and its functions of perception, integration and execution in the interests of adaptation and defense, receive the most intense implementation. Thus we see that every disease has the potential for psychopathology in the psychic representation of the organ functions involved. This potential is determined by genetic, dynamic and structural factors in the organic, psychological and environmental sphere.

We thus see that the central core of the psychosomatic problem lies in this period of differentiation from total hereditary to individual learned patterns and their integration into a new personal system. We must then be prepared to deal with the intermediate process of development between the undifferentiated whole functional pattern and the integrated mature process. It is this period that determines the formation of a healthy, sick or potentially sick organism.

Our research experience has caused us to place emphasis increasingly, upon the influence of pregenital experiences in symptom and character development. These early months see the formation of the framework for later development. In this period the child’s physical incapacity makes him completely dependent upon the environment for the wherewithal of survival as well as for pleasure and pain experiences. This early environment consists mainly of a mother or her surrogate. The dependency of the baby upon the mother or nurse and a reciprocal need of the mother for satisfaction from the child, sets up a symbiotic relationship.

Within this symbiotic relationship the child develops habits of expectation and reaction, which adapt him to the conditions in which he finds himself, and defend him against noxious and unpleasant experiences. These early habits may be considered as the first stages in the development of the conflictless ego, which is a stop beyond the simple neurological reflex response to stimuli. Adequate motherliness offers a healthy environment in which the adaptive tasks remain within the infant's capacity. The ego habits can then become those which keep the infant physically comfortable in a maximum and acceptable relationship to the environment. Lack of motherliness increases the difficulties of the adaptive tasks. Spitz has shown how infant neglect produces “affect hunger” which then turns the infant away from the environment into autistic habits of need and pleasure seeking, so-called anaclitic depression. Hartmann has discussed the influence of a mother's restraint of her infant upon the development of his hostile feelings and responses. Bergman and Escalona claim that insufficient protection of the infant from stimuli develop childhood psychosis.

Since early adaptation is mainly that of adjustment of the various body organs to their various functions in extrauterine conditions, it is reasonable to suspect that latter maladaptation of the organ due to emotional causes may arise from emotional difficulties experienced in the first months of life when patterns of response are initiated.

The tenability of the above premise is substantiated by the facts gleaned from histories of psychosomatic cases that include information concerning the relation of the mother to the patient in infancy. These relationships were always fraught with various traumatic experiences such as rejection, cruelty, neglect, inconsistency, unprotected separation, etc. which would produce actual suffering in the child. These sufferings are more intense in the infant than the older child, and therefore offer greater emotional traumatization. Minsky's experimental findings suggest that at least some sensory thresholds of the infant are practically nil. Freud too, has commented that the protection against stimuli, is a function of the ego, and indicates that in the pre-ego period in early infancy, the child has inadequate protection against stimuli. Thus a lack of both a threshold to stimuli and of adequate protection against noxious ones, excess organ pain would, conceivably initiate excessive protective reflex responses, thus sensitizing one organ system over another. The localization of sensitivity in an organ system which has been exposed to suffering, such that a psychosomatic disorder later developed in that system under emotional stress, has been suggested by Deutsch. This follows Fenichel's hypothesis that an event is traumatic because it stirs an unconscious conflict—revives old unresolved suffering. It is possible, as Seitz has postulated, that psychosomatic symptoms take on the character of difficulties arising in the original conflict situation. Thus, a somatic symptom echoes a somatic disorder which was un mastered. This localization of organ pathology may represent only an exacerbation of a chronic condition which started in...
in infancy but was masked for months or years until precipitating causes produced a flare-up.

Spitz made the first attempt to correlate infantile experiences with somatic disorders, recently, when he classified the characters of the mothers of the infants presenting certain psychogenic disorders. He stated that mothers of babies with three-month colic were primarily anxious and overprotective; of babies with infantile neurodermatitis were hostile under the garb of anxiousness; of babies with coma of newborn, were primarily overtly rejecting.

Dr. Gerard following Margaret Mead's suggestion that cultural trends are communicated and taught to infants by the mother's tone of voice, mode of handling, etc., felt that it was possible that varying behavior of mothers within a single culture could produce varying responses in their infants. She studied the maternal behavior in those cases in which various psychosomatic symptoms occurred as elements in the total constellation or personality of the children. These cases were studied conjointly by a child psychoanalyst and a psychoanalytically trained pediatrician, while the children were hospitalized as well in the outpatient clinic after hospitalization. Detailed exploration of the first months of life were studied from the pediatric, psychiatric and social workers' histories of parents and other adults caring for the child. Emphasized in this study was the chronological sequence of events in the infants. The present behavior of the mother was observed and reported.

This study revealed much interesting and confirming information in the cases. Although the total constellation of the neuroses and personality patterns varied considerably from case to case, the secondary neurotic symptoms and personality characteristics were consistent with developmental expectations when one considered the influence upon the early neurosis of later occurring traumata and experiences in the anal, oedipal and latency period.

One general characteristic which all these cases had in common with each other without exception was that, all these mothers were narcissistic and uninterested in the child except as a self-enhancing asset. They resented the exertion involved in child care and rarely gained pleasure from the mother-child relationship. All these women lacked mature motherliness. In addition most of them were rejecting and physically cruel, and resented the added care of the infant during physical illness. Each child presenting a psychosomatic disorder had experienced frustrated dependence at a stage when body needs are dependent upon the mother for satisfaction.

I. Studies of Ulcerative Colitis: all of the cases studied were found to be unwanted children. The mothers complained of disgust and dislike of stools and diaper changes and were particularly irritated with the child's diarrhea. Bowel training in all cases had been early and punitive.

In character these mothers were dependent upon their own mothers; several had their mothers living with them in their home. They were unloving and sexually frigid, but they were very ambitious for the child's achievements of training, walking, talking and pushed the child for independent but conforming behavior.

II. Studies of coeliac disease and magalocolon: This group possessed the most disturbed of all the mothers studied. Most of them were psychotic with depressive and apathetic behavior interrupted by occasional violent outbursts. The others were withdrawn, complaining and irritable.

These mothers reacted severely to constipation in the infant. It elicited anger, irritation and frequent enemas and suppositories. These were often used as a preventative when the infant was constipated.

None of these babies were breast fed; most were fed with "propped" bottle rather than held and most were "forced fed" when disinterest in food was shown. All of the babies were exposed to further severe physical suffering from beating, slapping, yelling. In some cases the father was cruel, while the mother passively permitted his cruelty to the child.

III. Duodenal Ulcer Studies: All these infants were exposed to irritable mothers who were displeased with the extra care involved in illness. All these babies had frequent illness (pneumonia, influenza, otitis media, bronchitis, etc.) One mother brought her child to the hospital with an upper respiratory infection, who when the child vomited, said to the interne, "Please take him in and keep him!" However, she had a severe fear for the baby calling the interne frequently to ask if he had died.

All of these mothers were inconsistent, threatening, hugging, then scolding, shouting, spanking, and often shaking the child at
feeding if he dawdled. None of the babies were breast fed; none were held during bottle feeding, and all were on feeding routines with long intervals.

IV. The Asthma Cases: These mothers were dependent, demanding, unyielding mothers who in all cases were charming and socially wooing, presenting an external appearance of good adjustment. They were particularly hypersensitive and irritable to the crying of the infant. Some "shook the baby out of crying", some beat them, others said they left them alone until they stopped crying.

V. Eczema Studies: These mothers were fearful and agitated. They did not handle the children much, but when they did, they were rough in the handling of the babies. These mothers also had fears of their own illnesses and that it might lead to their own death and they were frequently absent from the children when they were ill, regardless of its lack of seriousness.

VI. Obesity Studies: These obese children were associated with obese mothers. All these were compulsive eaters and compulsive feeders. They were all overly concerned about the quantity of the babies, food intake, were oversolicitous, anxious and irritable at times of regurgitation or of food refusal.

VII. Studies of Diabetes: These mothers were neglectful and irregular in the feedings and were withdrawn. They were severely disturbed and were in need of psychiatric care. They were also dependent and attached to their own mothers.

VIII. Studies of Rheumatoid Arthritis: These mothers were compulsive, unemotional, and perfectionistic. They held the baby stiffly and with a firmness which inhibited free movement. They never caressed the baby. When questioned about it, they said "Should one? Would it spoil the child?"

IX. Studies of Hyperthroid: These were found to be unwanted children of anxious, trembling, fearful mothers who were "afraid to break the baby" when caring for it. Most of the care of the children was relegated to ner-do-well, irresponsible, members of the family such as grandmothers, aunts, mother-in-laws, etc., while the mother worked or was occupied outside of the house.

These biographical experiences are related as hints of the role which they may play in the sensitization of different organs or organ systems so that the organs down in later life to exhibit physical pathology. This is not to imply that those particular factors represent the only determinants but merely that, in the multiplicity of determinants, these seem to play important parts. This data must not be considered full enough for microscopically accurate enough to draw categorical conclusions, but they do pose possible theoretical implications. In the various psychosomatic cases related the children were exposed to anxiety and suffering at the hands of rejecting and narcissistic mothers, or to some form of extraneous terrifying experience.

As noted in the beginning, severe reactions may be expected to occur in response to severe suffering in early infancy because of a minimal protection against stimuli to suffering. One wonders why these children developed neurotic organic disorders and not schizophrenia. Some authors state their belief that "psychosomatic disorders are in a sense a defense and protection against a psychotic break." Indeed, it has been noted that in certain psychosomatic disorders, as ulcerative colitis and duodenal ulcer, dangers of psychotic episodes developing during psychoanalysis is great and have occurred and that the psychosomatic symptoms may alternate with a psychosis.

John Rosen, in discussing the theory of his "direct analytic therapy" for schizophrenics, states that "a normal or motherly parent responds to a disturbance of a child by trying to relieve the disturbance. The narcissistic parent resents this disturbance and attacks the annoying aggressor (the child). The parental deathwish against the child may be perceived by the child's unconscious and constitute an 'unholy peril' with accompanying terrifying anxiety." This anxiety he believes may be the basis of schizophrenia.

One gets the impression that the mother of frank schizophrenics are more disturbed, and more rejecting generally than the mothers of psychosomatic sufferers. If so, we can see the possibility that there would be more elements of adequate ego building for those children developing organ disorders than for schizophrenics.

In corroboration of this possibility we must note the fact that the ego of psychosomatic cases studied, present a more adequate adaptive capacity than cases of childhood psychosis. Except for the physical illnesses their adjustment to people, to work, to play, etc.
was neurotic but not psychotic. This implies that the total personality constellations of the psychosomatic patients, though pathological, presented the main defects in the integration of certain body functions into the total functioning.

Emphasis of focus of the mother's rejection upon particular physiological functioning in the early months may be the differential etiological feature between schizophrenia and psychosomatic disorders and between the specific different organ neuroses.

For example, mothers of ulcerative colitis cases seem to reject and be especially irritated at the time of diarrheal bowel illness; mothers of coeliacs and megalocolon are irritated and anxious with constipation and thus impose enemas; mothers of duodenal ulcer cases reject any feeding irregularities and dependencies; those of pylorospasm cases resent feeding demand and control from the child; those of Rheumatic arthritis cases react to the helplessness and the need of the child to be held and supported, by rough handling, etc.

Thus we become aware that the incapacity for adequate functioning and susceptibility to breakdown may stem from the injury of the organ induced by the mother's care of the child during the physiological functioning of that organ. Add to that the injury due to mishandling and cruelty resulting from mother's rejection of both the child and its functioning which tend but to increase rejection during the specific functioning as in eating, defecating and crying. Possibly, a chronic disorder ensues which shows only symptoms during exacerbations, or a reflex sensitivity may be imposed.

All studies disclosed that other neurotic symptoms and character conflicts exist in these patients who present organ symptoms. In many instances these conflicts are similar. Alexander et al, in his studies indicated that specific conflicts are specific for each psychosomatic illness.

Is it possible that the conflict found specific for the disease is one produced by the same kind of experience creating the somatic symptoms? Or may it possibly be that when the mother's behavior are alike in secondary ways that they cause similar total reaction? It would seem that since these mothers possess so many traumatizing characteristics which are repetitiously alike, one may explain the frequency of similarity.

Vol. 19, No. 2 | THE PSYCHOSOMATIC CONCEPT IN

In other words, the specific conflict may be a necessary part of the total syndrome or a usual concomitant that always accompanies the total syndrome. One may assume the specific conflict determines the total syndrome, or one may recognize that they usually go along together, and may or may not have symbiotic or correlated meanings.

BIBLIOGRAPHY

THE NEUROLOGY AND BIOCHEMISTRY OF SYMBOL FORMATIONS, MEMORY AND CHARACTER IN PSYCHODYNAMICS.


Mackay finds (1), "At the outset it is clear the human memory is but a special manifestation of a more biological retentiveness, which is present in some from in every living thing...It is at once clear that the patterns of receptivity and those of response are linked together as operative units, as sensori-motor memories, in the behaviour of organisms...Furthermore, memories in this biological sense, may be inborn or acquired."

Life and biological memory are co-existent. Life depends on nucleoproteins cycle and DNA—RNA relationship in the complex consisting of cytoplasm nuclear membrane—nucleus. Does biological memory also depend on the same biochemical and biophysical basis? How does human memory differ from animal and biological memory? What is the organic basis of this difference? The study of memory is limited, in this paper, to its role in psychodynamics.

Mackay continues to state (1), "Its mechanism in a nervous system is a most elusive function of neuronal networks by which topographic and sequential pattern of stimuli sensitize the net-work to subsequent stimuli in the same patterns, probably through the device of summation in reverberating circuits rather than by facilitation of anatomical pathways...Cybernetic is of transcending importance...But one's enthusiasm of these "imitations" of the human brain is tempered by our familiarity with the superb adaptive, compensatory mechanisms of the nervous system, with the "creative" synthesising capacities of the human mind, which can even device an electric brain and with the remarkable phenomena of human neurosis...And at best, the computing machine still needs a man to operate service and repair it...It is thus not entirely automatic. Perhaps one can say it can be "taught" but cannot "learn" from raw experience."

He also adds (1), Memory has no precise localisation (as put forward by Penfield) and thus cannot be said to "reside" in the
Behaviour of unicellular organisms and the phenomena of
trophism as well as the inborn memories of insects demonstrate
perfect memory but it may be recalled that these are unchanging
memories. They cannot be changed by acquisition. They can also
not be lost. (forgotten).

They are determined by genes as well as by the expression of
genes. Mackay stated (1), "Some insects (butterflies) exhibiting
inborn sensorimotor memories of great complexities, transmit these
patterns not only from one generation to the next, but through
metamorphoses in which they lie dormant while entirely different
behaviour patterns operate."

Memory and genes are based on nucleoproteins and memory
traces are in the form of alterations of configurations of protein
molecules. Recall of last experience is possible because of the lasting
trace left behind. This is familiar in immunology where after periods
of even years of first injection, an antigen can with much greater
facility and skipping over the preliminary state of hypersensitivity
produce antibodies abundantly on the second injection. Anamnesis
reaction is thus the organic basis of paraparaxis and paragonia or
false memory. That the anamnesis reaction may themselves be
facilitated by emotional conflict and tension is not denied, but is
accepted as implied in the hypothesis itself.

A study of psychopathology of everyday Life (2), the symptom-
atric act, the disturbed act and the inhibited act (3) as observed in
lapsus linguae and lapsus calami or "active forgetting" and screen
memories take us to the central problems of psycho-dynamics and
memory functions.

In a comprehensive study of the phenomena of human memory
where (i) impression and its disorders (ii) retention and forgetting
(iii) recall and its disorders (iv) recognition and reaction and their
disorders, are to be considered we have in addition to other spheres
of work, to deal with (a) neuropathology, neurophysiology and
biochemistry and genetics (which two are the special fields
being studied here) and (d) origin of language in human race as
in the individual-in-society and individual-in-time. The study of
anatomo-histological functions and bio-physics mainly give information
about general mechanisms and processes of memory and behaviour.
The study of biochemistry and genetics give information about specific
processes both topographical and sequential as basis of
memory and behaviour. The study of word-language and language
at other levels as well as the products of creativity and play give
information about mind-content with which the psychoanalyst and
psychodynamic workers deal with.

The factor of memory called, "Reaction" by Mackay (1) may
be studied in greater detail. He states, "The orthodox consideration
of the psychology of memory customarily ends in recognition. It
seems correct, however, to append reaction as the fifth and final
process. This reaction consists not only of the emotional attitude or
visceral response; but also of the extrinsic motor response of the
organism, and for purposes of physiological analysis completes the
whole process. For as we have been, there are motor memories
(Kin-mnesis) no less inescapable as sensory.......The character of
an individual—his enduring patterns of conceptual and kinemnestic
interaction with the complexities of life—is the sum of his ideational
and motor memories, inborn and acquired. Without this broad,
inclusive memory function, he would have no character—no capacity
to perceive and behave in any consistent fashion.....In the operation
of this memory function the affective or emotional elements in lending
value and significance to the sensory inflow, and in imparting a
discriminating dynamic to the motor output, are immediately obvious.
The structure and consistancy of character depend, in the ultimate
analysis, on these affective functions."

The sensory cortex and the motor cortex react to each other as
organised wholes in action-reaction circuit with the affective circuit
between the symbol world and value world on a similar action-
reaction pattern.

It is generally accepted that (4) "man uses symbols; no other
creature does." White (4) continues to state, "The man differs
from the dog and all other creatures in that he can and does play
an active role in determining what values the vocal stimulus is to
have and the dog cannot.....we know next to nothing of the
neurology of symbolising."
Dalbeiz states (3), "Whereas the ordinary symbol, implies no direct causal relation with what it symbolizes, the Freudian symbol is essentially and by definition an effect of what it symbolizes (as in his observations on dreams)... (Freud's use of the word symbol is in the sense of index or effect-sign.)"

One of the fundamental axioms worked upon by Freud in the sphere of dysfunction aberrations and disorders of all memory functions symbol formations and character formation, both normal and abnormal was psychic determinism, that is, that they are effects of changes in affect or emotions. Each of the parafunctions has a cause a meaning in terms of instincts. They were "reactions" or reaction formations as described by Mackay. In this limited sphere the difference between the statements of Mackay and Freud is due to the fact that while Mackay is dealing with neurophysical and neurochemical processes Freud was dealing with mind-content. Both of them as well as A. Myer and workers have emphasised the fundamental function of reaction formations, in particular and psychic determinism in general.

The central hypothesis in this paper, is that the functions of symbols, memory and character are multi-dimensional reaction-formations in terms of neurophysics, neurochemistry and neurogenetics. Character is this reaction-formation of the individual-in-time. Memory is this reaction formation in the cross currents of the efferent afferent circuit with the affective circuit. Symbols or figures are units of human memory and character.

Human memory is directed outwards as in animals but is also directed inwards. Insight and the inward direction of memory is slight in animals. The centrifugal versus centripetal or objective versus subjective memory, worked out, down the ages, in introspection, has been studied by Jung and Eysenck in the phenomena of extraversion versus introversion and as pygmalionism versus anthropomorphism by the author (5).

Sillman (6) has recently put this matter succinctly, "The emergence of man was accompanied anatomically by a slight shrinkage in brain mass, an increase globularity of the brain, and increased fissurization, instinctual inhibition and an increased instinctual drive. These changes can be explained by the hypothesis that the genesis of man was achieved by the expansion of instinctual drives to the point where they were split into two, one part retaining the original direction toward the external world, and the other part being turned in against the self. The turning of the instinct against the subject can be viewed as the primary change responsible for the transformation of Paleolithic man into Neolithic man."

The experiments on conditioning and experimental neuroses in dogs by Pavlov as it occurred in Nature, during the descent of man, might have been the landmark in phylogeny, when this split occurred. As the result of increasing external stress an inner strain occurred in the cytological basis of human brain resulting in a split stated above. It saved the human ancestor from experimental neurosis type of breakdown due to over-conditioning etc, and this became a locus for the action of natural selection. Ontogenetically the vestigial recapitulations of experimental neurosis are observed in neonate and infant reaction-formations of comparatively simple type, under situations of stress. The expansion of instinctual drives was an accompanying process, as studied later.

In addition to human memory being centrifugal and centripetal along with phylogenetic characteristic of association-dissociation or integration-differentiation, it works at the level of association as well as reminiscences (7, 8) and at the level of organ-memory and "value memory".

Murphy has divided functioning levels of personality (9) into the world of symbols and world of values. To avoid confusion, like Freud, between the philospho-psychological meaning and the psychodynamic meaning of the word, the world of organ-memory may be called world of figures.

It has been studied (10) that organ-memory has Maclean's (11) visceral brain as its main organ basis as pace-maker and "value memory" has the rest of the cortex as its basis as pace-maker. The place of Penfield's work in the organ-value affect circuit may be studied later. Federn's body ego (12) has organ-memory and mental ego has "value memory" as its organic basis.

Above-stated Sillman hypothesis of instinctual inhibition and increased instinctual drive is the fundamental dialectic as basic to most psychoanalytic and psychodynamic findings. We have to find a neurobiochemical and genetic basis for the negative and positive biochemical feeds backs, which are the organic basis of his hypothesis of splitting. This organic basis under different levels of function,
might be the organic basis also of general inhibition, of retardation
guilt (inferiority) and megalomania, and of Nirvanism and Narcissism.
This may comprehensively interpret psychodynamic mind-content.

We get a look in, in the origin of meaning as well as in the
mechanisms and processes of human memory in action in the analytic
study of dream-work; the relation of manifest dream-content in situ
with the latent dream content. This field has been studied by Freud
as well as Jung and by the author (7) in great detail.

The field of action of cross-currents has been mathematically
worked out by Allport (13) in his study of perception as structure,
his theory of structuring of events, and the model of structural
kinematics.

Reaction formation mechanisms work as (i) dialectisation (ii)
spectralisation and (iii) gestalt formations or reminiscence formations.
Each of these functional mechanisms may occur as negative or
positive or as reverse and inverse processes in the 5 factors of memory
already studied: Dysrelations and dys-coordinations when unresolved
may lead to psychopathology of memory and psychodynamics. The
basic mechanisms of dialectisations, spectralization (atomisations)
and its opposite called fusion (integrations or monistisations)
and gestalt formation are generic terms implying many variations and
dichotomies.

All workers in the field of psychodynamics observe dialectic
processes at work. But each of the workers describe basic dialectic
in different terms. This fact in itself is an evidence in support of
spectralization.

All languages have dialectic synonymous and autonymous. A
look into Roget’s Thesaurus will convince of the spectralisation of
meaning and that the meaning of words are ranges on a continuum, as
happens in spectral overlaps. Not only the meaning of one word, special
ly for words with affective connotations, is overlapped by meaning of
others, but the same word has many spectrum like differential
meanings. Even our concerted efforts to define words gets corrupted
due to the phenomenon of spectralization inherent in human memory
symbolism and meaning. Spectralization in this connotation is studied extensively in psychoanalytic literature, in the descriptive
terms used in it along with the accompanying vagueness and multi-
plying tendency. At the lower level of the function of language

Biological changes of all kinds are due to changes in molecules
expressed both in embryogenesis as well as in structure and function
both in health and disease and both in organogenesis and senescence.
Molecular changes may be expressed and studied in terms of
biophysics or biochemistry but the ultimate change is molecular and
atomic. We shall study the phenomena up to the level of molecules
and biochemistry and not beyond that level.

Inborn memory is genetic and based on the genotypal expression
of the phenotype of genes. Acquired memory being a change, in the
inborn memory in animals, through conditioning and inhibition, is
change in the biochemistry of the genetic basis, in the nucleus or in
cytoplasm.

Darlington and Mather (15) state that cytoplasmic determinants
remain unchanged and unimpaired by the continuous government of
an alien nucleus in the cell introduced experimentally. Thus they have
properties of a gene and are called plasmogenes. Genes exist in the
nucleus and plasmogenes in the cytoplasm. Cytoplasm is the site of
differentiation and specialization of cells.

They state (15) “The interaction of the cytoplasm and the
genes in the nucleus, each modifying the behaviour and activities of
the other, is now becoming clear...The cytoplasm thus determines
whether and how the gene will express itself...We have already seen,
that, the plasmogenes, can propagate themselves in the cytoplasm with
a permanency and autonomy scarcely less than that of the nuclear
genones-microsomes in the cytoplasm, which have been separated by
centrifuging cells...probably include both the plasmogenes and the
other self-reproductive proteins (due to RNA) important in develop-
ment and differentiation...Thus at this molecular level (in viruses,
bacteria and certain tumour cells) we can again produce a pseudo-
Lamarkian effect. We can control heredity from the outside and
control it this time constructively...But the typical development of
tumour growth in animals is due, and could only be due, to somatic
mutation...But all may have arisen...by change in self-propagating
proteins in cytoplasm...and in their relation to the cell, their changes
are analogous to the mutation of plasmogenes...The genetic analysis
of the origin and transmission of cancer puts us in a position for the
first time to see and understand the triangle plasmogene—cell protein—virus or (if you will) heredity—development infection in its true perspective...such diseases as virus III in rabbits and perhaps Herpes Zoster in man, referred to by Holmes and Price, may appear spontaneously...in these cases the virus probably results from a distortion of protein metabolism in the individual in which it first appears...In these changes the cytoplasmic system is subject to the nucleus. It is also, to a greater extent than the nucleus exposed to the environment and of course to the effects of differentiation. Lastly for their permanent transmission, cytoplasmic elements have another channel open to them than heredity: They can spread by infection. By this piracy they separate themselves, in adaptation and evolution, from the organism of which they form a part. And the same separation occurs when by mutation, they come to multiply in such a way as to injure or kill their own motherbody...Within the individual there are thus system of different kind at work in determining heredity, development and infection. In their functions, as self-propagating proteins in cytoplasm, they are indistinguishable. But their work at different levels of integration each has its own rule of behaviour, and each is related to the others by yet other rules of conflict and cooperation. With all these the genetics of the individual is deeply concerned.

The organism is a gestalt of the functions of its organs and tissues; each organ is a gestalt of the functions of its cells and membranes and the cell is a gestalt of the functions of cytoplasm nuclear membrane and the nucleus. The nuclear membranes is the co-ordination or of cytoplasm and nuclear functions through positive and negative biochemical feed-backs (15) and the functioning patterns of the nucleus have been studied under the ultra-microscope.

The plasmogene and cytoplasmic microsomes have same functions and biochemical molecular change under the control of the nucleus through the nuclear membrane. This is the basis of innate or inborn memories. The plasmogene and microsome concerned have another set of biochemical molecular change which is independent of nuclear control. This is the basis of acquired memory, as such plasmogene change is under the control of general cell change and environmental as well as cell ecological changes.

This organic basis of acquired memory is two-faced. A study of origin of and treatment of carcinoma, auto-immune disease and immunological processes in man as compared to the animals (16 & 17) and the findings of genetics demonstrate that plasmogene and other cytoplasmic determinants may act either as adaptational (10) or viral in their activity. The independant activity of plasmogenes working during repair, hyperplasia and kineotogenetic modification in relation to stress and strain may be called adaptational para-plasmogene activity and when independent plasmogene activity "acts in piracy" spontaneously producing viruses, it may be called viral para-plasmogene activity. Ortho-plasmagene activity may be defined as that under control of the nucleus and in the central nervous system represents the somatic functional componant of double function theory of organs by Freud (10). The para-plasmogene activity represents the psychic componant of the double function theory of Freud. The two-faced nature of para-plasmogene activity is the basis of dialectic of human nature in all the four stages of Freud’s hypothesis about human dialectic.

In a homeostatic cell the products of viral as well as adaptational plasmagene activity act with each other on the laws of immunology stoichiometry and stereochemistry, and those basic laws should apply to phenomena of symbolism, memory and character if the hypothesis is correct.

A study of dream-work by Objective Method of Dream interpretation (18) which covers the findings of most of the workers on dream, correlated the nature, functions and structure of dreams with immunological patterns of processes as well as with formations of new proteins, viral as well as adaptational in the organic basis of dream-work. Id and superego content interact on these laws in the dream work.

Reaction formation in memory functions is based on the obverse-reverse biochemical configurational type of new protein genesis in cytoplasm, as dialectisation. The immunologists (19) have demonstrated that when a foreign protein (antigen) is presented to the cells concerned in antibody production, they replicate it, as an antibody, so that antigen and antibody unite, to put it bluntly, as lock and key, the configuration of one fitting into the other, and this occurs with very complicated and large molecules as well as with small molecules of antigen as long as it is a protein, or combines with one.
Spectralization may have the same factor, partly, as its organic basis the plasmagens in cells of different areas, producing reaction formations slightly different in configuration to the others, due to their pre-existing plasmagens constitutional formula being different from them. Other histological genetic factors may also be responsible for spectralization, as studied later.

Gestalt formation between the viral and plasmogene activity may occur by continued action of antigen on antibody-producing para-plasmogene microsomes as occurs in biology in the phenomenon of symbiosis between the invading organism and tissues of the host. But nuclear membrane may be the organic basis ultimately to bring about biochemical coordination, as it has been so acting during embryology. The nuclear membrane is responsible for homeostasis if other mechanisms fail.

The other functions of memory may be studied on this basis. "Impression" is the "hanging together" of disparate sensory items and of crucial importance, as studied by Mackay, is the affective tone pre-existing as well as implied in some of the sensory modalities. This is in the organic level the first contact of an antigen with host cells. Each sensory modality has its effect on the neurone concerned with production of biochemical change which as it happens in photo-electric or audio-electric change is conducted, faithfully, to the cells of the centres concerned and in the cerebrum ultimately.

"Retention" is due to the interaction between the nature of sensory modality and the nature of existing cytoplasmic biochemical and bio-physical constitutional and configurational structure, which with such change in a large diffuse area of cortex is responsible for the affective tone as well as "meaning" of the sensory modality for the particular subject. Factor of repetition in retention is also understood on this organic basis in terms of repeated presentation of antigen.

Concept formation is an integration of many related perceptions attained in the hierarchy of the strata of cells in the cerebral cortex. This is another organic factor as the basis of spectralization and variational infinite patterns.

"Recall" has been stated by Mackay to be evocation of concepts by association or imagination due to the concepts "hanging" together and is shaped or governed largely by the affective tone imposed by the total situation and by the previous experiences of the individual. In the organic basis it is the affective circuits putting into action the intracellular biochemical positive and negative feed-backs of pre-existing reaction formations, as it occurs on the second injection of a familiar antigen in immunology.

Recognition is feeling of familiarity and is related to recall. But as Mackay points out the emotional process (recognition plus affective attitude) alone leads meaning or significance to the experience—the process known as appreception and constitutes, in physiological term, the visceral response. The visceral response in the scheme put forward here is due to two factors. It is due to the affect between the organism-drive basis and the value world basis in cortical zones as well as due to the intracellular reaction formations between the ortho-activity and para-activity of plasmagens.

The adaptive plasmagene activity is the organic basis of the death-instincts of Freud and the viral activity of the plasmagene is the organic basis of the life-instincts of Freud (20). The adaptational and viral activity are essentially related in obverse reverse patterns (antigen antibody pattern) in intracellular and inter plasmagene reaction formations. As such they are not related essentially and primarily to life-instinct or death-instinct. But as adaptational para-activity of plasmagene, tends to restore homeostasis of cell change after viral activity its effect and the effect of nuclear membrane controlled plasmagene activity (ortho-activity) maintaining cell homeostasis on genetic patterns are homologous. Nuclear membrane homeostasis of cell maintains the life and normal in-born activity (as memory and instinct patterns) therefore the homologous effect-causing adaptational plasmagene para-activity is in the direction of what has been defined as "life-instinct" of Freud. Instead of the hypothetical application of the second law of thermodynamics as basis of "death-instinct" viral activity is the proper basis of it, being in opposition to adaptational activity.

The concept of meaning as defined by Mackay is the central one, in the study of affect memory character formation and symbolism. The visceral response is of central significance in the concept of meaning, not only in the organ-drive or functions of "visceral cortex" of Maclean, but indirectly in all zones of the functions of the cerebral cortex. The vehicle of the organic basis of this wide-spread visceral
response is the para-plasmogene activity in the cytoplasm-nuclear membrane — nucleus set of the cortical neurones in vivo. Neurones in vivo signify neurones as target tissue of the endocrine and in the anatome-histological set up of the cerebral cortex in man.

The ortho-plasmagene cytoplasmic function takes a long time to mature and requires so many positive and negative stipulations in the lifelong process of nurture, that the factor of character and dynamic memory patterns based on it get the dominant role only in a few individuals. Most individuals are nurtured by the sensitisation and stimulation of immediate pleasure-motivations or power motivations. Little attention is paid from the beginning to the end to the time-dimensional evolution of good or bad as the main basis for nurture for the total personality and its maturation.

It might be presumed that in ideal nurture and ideal unfolding of hereditary constitution under ideal environment-sets the nuclear controlled homeostatic function of cerebral neurones will play the dominant role in psychogenesis from somatic organic basis and the dialectic nature of man due to para-plasmogene activity will be in minor variations and fluctuations.

Education theorists, whose work is most relevant to character formation (attitudes), do not agree with one another as to the ideals of an educational system. But they are all concerned with the basic requirement of character formation, namely, stable character (21) as well as its co-ordination of individuality with adaptability in freedom as well as responsibility.

The stability of character has been referred to by Allen, a geneticist (22). He states, "Incomplete genetic stabilisation resulting from the fact that phylogenetically the brain is one of the newest structures and is probable still in the process of rapid biological evolution...In fact, it was hypothesized that many of the genetic variations in the human nervous system were likely to be extreme. ...It might take, several million years of natural selection in constantly changing social environment to consolidate recent evolutionary advances in man's nervous system and behaviour."

The infant, child and adolescent becomes sensitive to stimulation of pleasure-motivation, power motivation, social and time-dimensional motivations at different age periods (23) and therefore the educationist has to wait for the specific proper age period. But the emphasis on the stimulation of various motivational patterns at present is such that para-plasmogene activity stimulation and nurture on its basis, remains dominant rather than on the basis of nuclear membrane homeostasis.

The development of memory symbolism and character is thus dialectic based on viral and adaptational dialectic of plasmogene activity dominantly in the para-plasmogene sphere. It is thus understandable that all psychodynamic schools come across dialectic patterns in their study. The emphasis in therapy of all schools is on neutralization correlation and co-ordination and we concentrate on ego-psychology or allied functions. In analytic therapy there is an attempt to nascentise and redevelop ego-functions and in other forms of psychotherapy the objective is stabilisation and consolidation of ego-functions and reeducation of its object-relations.

The viral plasmogene activity is the organic basis of fantasy and the adaptational activity is the basis of counter-fantasy. If the adaptational activity is the basis of a fantasy the viral activity becomes the basis of its counter-fantasy. Spectralization factors add on complexities and variations.

The whole of the gamut of sequences in the biochemical inter-plasmogene activity of immunological processes in the phases of sensitization and tolerance ending in symbiotic stabilisation between fantasy and counter fantasy, may in due time, depending on various factors, may develop into gestalt formation of foreground background configurations of the two fantasy patterns into symbol formations and as positively or negatively re-inforced by the mother's effort at development of language. In character formation which is a global cerebral process, the cultural and social selection operates to produce positive re-inforcements or negative inhibitions with resulting dominance and recessance. The process of symbol-formation is on one extreme as units and their integration into character formations is on the other a global and time-dimensional function. The transitional processes and mind-content of hanging together and not hanging together, of association and dissociation, of feeling of familiarity and dis-familiarity, of other forms of positive or negative reaction formations, is memory. Impression formations, retention, recall and recognition, their negative counterparts as well as their abnormalities are the transitional phases in psychodynamics. It is the 'here and
now in this dynamic integrative as well as differentiative set of processes, mechanisms and totality involving the whole of the organism -in-environment, and organism-in-time.

The reverse process in foredream and dream work where mind-activity is dissociating in terms of the units, as symbols, the above-mentioned also holds good.

If, as stated by Allen, there is an ambivalent or constantly changing social or cultural environment, reinforcements and inhibitions from this source, being severely ambivalent or fluctuant, the biochemical organic basis may be disturbing nuclear membrane functions stimulate it to re-establish homeostasis in a previously stable neuronic system. The gestalt formation function of the nuclear membrane have been mobilised at the organic level. We are not concerned here with psychopathology and therefore such sequences of events may not be studied here. The influence of stimulation of nuclear membrane and its psychosomatic discharge effects may also be omitted here.

The findings of study of dream work, abreaction under drugs, psychotherapy material under hallucinogenes and the records of psychoanalytic interviews are some of the important factual basis in positive evidence and findings of perceptual isolation are facts in evidence of the negative aspects, of the above-statements and confirm the more basic thesis of psychosomatic unity.

The content of the controversies amongst the educationists, down the ages (21) and their experiments as to the nature of character and the best method of its stabilised and efficient development support the above-mentioned hypothesis, in its essential application to character formation.

The demonstration by ablation experiments on large areas of the cerebrum that these operations do not materially effect character and behavioural memory points out that the ultimate organic basis of these functions are the billions of neurones and not specific zones of the cortex. This does not deny the basic basis of specialization of cortical functions, which are generally accepted.

Coleman and Shor (24) have emphasised the role of frustration trauma and self-traumatization in the process of ego-formation. Frustration, in the frame work of our hypothesis causes increased viral and adaptational paraplasmagene activity. Under conditions of tolerable frustration the homeostatic functions are put into continuous practice and increased efficiency status. The factor of competition in nurture works on this principle. In the organic basis it acts like a prophylactic inoculation against impending infection.

Both the releasers and the release mechanisms of the instinctive-pattern of animal behaviour get spectralized into infinite patterns, dialectised as well as tend to form foreground background patterns by gestaltic nuclear membrane and homeostatic inter-plasmagene activity, in man.

Frustrations, stress and increased conditionings and inhibitions is a highly sensitive cerebral cortex in man effect both the para-plasmagene and ortho-plasmagene activity of cytoplasm. The ortho-plasmagene activity being inborn instinctual and memory patterns is directed inwards in all animals. It is object-orientated. The viral plasmagene activity which works in piracy against their own mother-body is directed inwards or is subject-orientated drives and memory patterns.

Thus arose the split to which Sillman has referred to as basic for the transformation of the Paleolithic man into Neolithic man.

The viral plasmagene and adaptational plasmagene activity being dialectic tended to cause mutual “instinctual inhibition” during homeostatic phase and the vicious activity and counter-activity cycle when set in due to endocrine influences or imbalance or situational stress, in unfamiliar situations specially, or due to affective disturbance, led to reciprocal stimulation of one pattern of activity by the other, specially during aggression and libido excitations, and thus to “increased instictual drive.”

Spectralisation added its share to both these functional splits.

Symbol formation depends on selection out of an increasing pattern of signs. There are exogenous factors of selection based on mother-infant factor particularly and parent infant in general as well as other factors of nurture and socio-cultural complex. But the endogenous factor causing selection by “active role-playing in determining what value the vocal stimulus is to have” was due firstly to the reaction, organically based on interaction between para-plasmagene and ortho-plasmagene activity, between subjective and objective memory and drives and secondly to the split between two patterns of plasmagene activity, as life-instincts and death instincts or as aggression
and libido. The endogenous comparisons and contrasts were inhibited by exogenous factors ending in selective symbol formations. Later ego-formation sometimes took over even the role of exogenous factors. The "representative factor" in symbol formation is studied later.

Kubie (25) suggests, "That the original "non-I" world is that external to the boundaries of the body and perceived by the extroceptive sensory apparatus and the appropriate senses. On the other band, the "I" world is that of internal somatic sensations mediated by introceptive and deep-proprioceptive experiences. Kubie states that every conceptual unit is rooted in both, "I" and "non-I" worlds and also may have another linkage in an intermediate world. Thus the symbol constitutes the bridge between these alternatives and often simultaneous channels for the expression of internal tensions. He emphasizes every concept of symbolic representation inevitably developed through inner played meanings, which begun internally and extended subsequently to include external points of reference. All new units of external experience enter into the evolving psychic life by associating with that which is already present. The earliest learning builds on intra-bodily experience and the expanding knowledge of the external world relates itself automatically to the body impressions which have already been experienced internally."

The cytological basis of the "non-I" world is the object-oriented ortho-plasmagene activity which is in an integration of releasors (extroceptive stimulations) working on inner release mechanisms. The cytological basis of "I" worlds is the para-plasmagene activity subject-oriented and mainly influenced by and influencing the interoceptive and deep proprioceptive experiences, in the early stages of psychogenesis. The basic internal tensions in the organic basis have already been studied. The widespread organic basis of endogenous symbol formation is the reaction formation between these intracellular polarities. It is the transitional bridging between and the interconversion, reaction formation, on biochemical laws on one hand and cultural selection on the other, of the object oriented and subject oriented cytological basis which is partly responsible for symbol formation.

The reaction formations as they develop in time more and more, make both the orthoplasmagene and paraplasmagene activity work out all three (extroceptive enteroceptive and proprioceptive) impression levels into consolidated Mackay's sensory memories and kinemnesia cut across by the affect or emotional elements, as the symphonic pattern of adult memory functions.

The three types of sensory apparatus and sensations exist as much in animals as in man and therefore are not in themselves enough to explain symbol formation considering do not use symbols as does man.

The factors, which lead to splits in the older instinctual system of animals as well as in their perceptual system memory functions and character formations with the emergence of spectralization which increases with nurture emergence of dialectics, circuits, and also gestalt functioning ultimately, and due to which in the womb of natural selection orthogenesis and kinetogenesis (26) evolved man, with his ability both to create and control on one hand and to undergo neurosis and psychosis with occasional recovery on the other, have to be reviewed. When the endogenous factors are being studied we have to appreciate as implicit all through the intensifying struggle for existence and survival of the fittest factors, frustrations stress tensions increasing with every step in the evolution of man, in almost a geometrical progression, with additional factors of permutations and combinations.

The plasmagene and cytoplasmic system (15) as a mechanism of heredity decayed in higher life and a conflict between the requirements of heredity and differentiation appeared. The fibrous organisation of chromosomes due to the characteristics of DNA structuralisation took over more and more heredity functions and the microsome producing RNA with its structuralisation destructuralisation cyclic properties became the basis more and more of a counter system of differentiation integration. This reached its climax in man, as has been pointed out by Loeb (17).

The cytoplasm in specialised cells reproduces in terms of microsomes and not in terms of the cell as a whole and in highly specialised cells like the neurones and striped muscles as a whole has lost reproducing properties. The reproductive functions of the nuclear membrane has also become that of intracellular reproduction in collaboration with specialised cell functions. The nuclear membrane has to coordinate the conflict between the demands of heredity, and development more and more.
The organ differentials have diversified more and more in man. The individual neurone with its intra-plasmagene on one hand and its cytoecology as well as neuronic connections on the other, being different from the others is not likely to have exactly the same constitutional structure changes going on in it as in other neurones. This accounts for cytological basis of psychological specialization. Each intra-neuronic change became more and more variant from the rest. That there are larger number of neurones with greater histological variations, larger so-called silent areas specially in the frontal, temporal and parietal lobes, more developed Maynert’s radiation from the optical radiations to temporal lobe, higher differentiation of sensory apparatus specially visual and auditory and more developed central and peripheral differentiation in sensory and perceptual functions, add on to the neurone, in man becoming a specific variant in its cellular biochemistry and bio-physics as compared to other neurones. It also tends to shift the unit of change from neuronic to intraneuranic microsomes.

The factor of neuronic paedomorphism in man intensified differentiation integration as well as split between ortho and para-plasmagene activity (27). Paedomorphism means retention of immaturity or embryological status more than the mature and fixed neurones in animals. This in turns means, wider range of tension between heredity and differentiation and this we find means wider range of activity in the intercellular biochemical dialectic studied already.

There is evidence to show that all neurones are not at the same level of paedomorphism but that there is graded paedomorphism in various cortical neurones. Dekaban finds, “The brain of the neonate has few tertiary cerebral convolutions throughout the brain, and the cortex is poorly demarcated from the white matter (28). At three months there is a definite increase in the number of tertiary fissuration. At six months the number of tertiary sulci is greater (still) At nine months the tertiary sulci are deeper and also more numerous. At twelve months the color of the cortex is now significantly darker and the tertiary sulci are more numerous and prominent (than before). At two years the tertiary convolutions are well developed although more are still expected to appear. The demarcation between the grey and white matter is distinct.”

It is likely that neurones in the primary secondary and tertiary convolutions are at different levels of paedomorphism and therefore grow at different rates. The cells in various cortical strata may be also at different levels of graded pseudomorphism. Graded paedomorphism would increase spectralization and atomistic functioning.

Mackay’s reference to metamorphosis in discussing human memory may have been intuitive. Wigglesworth (29) states that metamorphosis differentiation of organs, and species variations (like the male and female of a species) are all basically polymorphisms and they may be looked upon respectively as successive, differential and alternate polymorphisms. He agrees with Mackay in that in the various stages (larva, pupa, fly) of metamorphosis while some genes are expressing themselves completely others are lying dormant, as completely to take their turn later, in the next form.

Due to factor already discussed enteroceptive, proprioceptive and exteroceptive cerebral functional systems develop in man at widely different periods. They correspond to the functionalisation of endoderm, mesoderm and ectoderm. Klien’s work called pre-genital phase is psychophysical and physiopsychic maturation of endodermal functions with emphasis on mouth anus internalisation externalisation of milk and faeces. Freud and Adler worked (15) in the period of proprioceptive and mesodermal maturation and Jung in the stage of ectodermal and exteroceptive maturation as well as in the totalisation of these three stages in the early part of the latency period (23).

Differential psychic polymorphism develops during the latency period when various practical intellectual abilities develop in a pronounced degree with s and g factors. This supported by the findings of Piaget allotting various age periods for the development of object, space, cause-effect and time-concepts. The cause effect and time-concepts develop in the early part of the latency period.

With the pre-pubertal and pubertal period alternate psychic polymorphism develops firstly in the male and female psychic patterns and character formation and later with further sub-divisions into traits and types of a permanent nature.

In each of these polymorphic phases occurring at widely different periods of life and plasmagene and microsomes of cortical
neurones in man take on differentials intensifying the intracellular microsomal differentials in individual neurones.

This is specially so, as the above-mentioned stages are not strictly limited and are diffuse as ranges on a continuum. A few microsomes in a cortical cell may have been activated in one stage of these polymorphisms and other at the onset of the other stages. The cortical neurone activity has not the whole neurone as its unit, as in animals, where all the above-mentioned factory, have not operated. But in man, it is the individual microsome which is the unit of neuropsychological change. This is the most important basis of spectralization, detailed analysis and detailed memory and observation capacity of man.

The intense spectralization and atomisation due to shift of unit status from the neurone to the microsome allows not only detailed observation fission and analysis but simultaneously allows of more and more comprehensive bird-eye-views, fussion, gestaltians and synthesis, which are the characteristics of human mentation and are endogenous basis of his culture. The factors of kinetogenesis and natural selection, as modified in man, act not only on activity of whole neurones but on its individual para and ortho-type of microsome and plasmogene as if each of these were independent units. There is a greater probability of a homologous microsome in another neurone that in other microsomes in the same neurone.

The degree of shift of unit from neurone to microsome is pari passu with level of nurture cultural demands and intellectual work which also increases with personality maturation.

The unit shift and spectralization are also intensified by the periodic differential activity of endocrine glands specially the sex hormones.

Large amounts of estrogen produced by the placenta and the considerable amount of chorionic gonadotropin in embryology bring into activity the embryonic and foetal sex glands, according to the requirement of the two sexes. In the last few months of intra-uterine life the testes descend and the external genetalia differentiate due to fluctuations in sex hormones. Again between two and four years of age in cases with undescended testes, due to increased secretion of gonadotropy, they are expected to descend and hormonal treatment is delayed to this period to support endogenous increase. The onset of puberty, the sexual perversions reproductive processes, the climacteric in both male and female and senility are other stages where sex hormones fluctuate work on the genesis and endocrine treatment of carcinoma (30) has demonstrated that swinging the hormonal balance, effects the carcinoma cells. The carcinoma cells are disorderly self-replicating cells due to disordered cell homeostasis mainly concerned with cytoplasm-nucleus, differentiation reproduction functions.

The above listed episodal swingings of hormonal balance are likely to effect the microsome activity just when a certain homeostasis is being established due to the previous episodal imbalance. This may add to the atomisation or unit shift and spectralization.

The intensive and spreading unit shift to microsomes as units allows infinite patterns of sensitivity, tolerance facilitations and blockage patterns. Gestalt formations due to dominance and recessance leading to foreground background configurations also become of shifting and changing patterns. Symbols are the result of natural selection and when formed become selectors themselves. Symbols are the result of pre-existing value systems and in turn are the basis of new values. This circularity and cyclicity has emphasised by Murphy (9).

Mackay has emphasised the role of the sensory input and motor output circuit as well as of the affective or emotional "element". The latter, influencing both sensory and motor memories, so to say, cuts across the input-output circuit at all points and it is thus implied to be itself a circuit in nature.

Ross (31) states, "In the ensuing discussion John Lily briefly summarised Kubie's main thesis: (1) The symbolic process stretches between two poles, the "I" and the "non-I" through the conscious preconscious and unconscious (2) The "gut" and the "I" components of this process are active in the archipallium, the "visceral brain" of Maclean (3). The verbal and "non-I" components of this process are active in the neopallium (4). The temporal lobe is the "cross-roads" of the archipallium and the neopallium, the "I" and "non-I" poles meet here (5). Penfield's work has shown that stimulation of these "cross-roads" can evoke the reliving and re-observing of past events, directly without the use of words and verbal memories used in psychoranalysis........"

The author has demonstrated (26, 15) that the "visceral brain"
is the organ-drive basis and what has been stated to be the functions of the neopallium and temporal lobes both, is the precept-work basis. It has been further stated (10) that that proprioceptive level is imitation precept-work basis and the exteroceptive (skin sensibility, vision and hearing) level is standardisation precept-work basis and the temporal lobe is the time-dimensional ideological precept-work basis. The terminology used by the author, is obviously tentative and descriptive. Kubie’s Schema agrees with that of the author in many ways.

The important differences relevant here and of greater importance than other minor ones are three in number.

As Murphy (9) has pointed out “the tension system, is the primary reality” Kubie’s system does not provide such an all important tension system. The author finds that exogenous factors and correlational factors apart there is a primary constitutional tension system in each neurone in the intracellular dialectics. Without this, the circuits or relays hypothesised will not work, in the complex patterns, as they actually do.

The word “cross-roads” is vague. Instead there are circuits (i) between the visceral cortex or archipallium (Kubie) and neopallium to the temporal cortex and back to the visceral brain and (ii) from the visceral brain to the temporal cortex (Penfield) round the neopallium and hypothalamus to the visceral cortex. Some of these paths have been explicitly discovered by neurophysiology others are implicitly deductions from it and from functions as studied in the findings of Total Psychoanalysis (32) and Dream Interpretation (7,18) and the work of other psychoanalysts.

The existence of circuits is the general finding of the cybernetic school, physiologists and psychologists including Murphy and other.

Murphy (9) states, “The words, however, have a second function, they establish again through conditioning, their own inner circuits, their own linguistic supplements, they come back in droves as a single dear old word activates the constellation of which it was a part........ The pathology of rigid personality structure is partly the pathology of such inner circuits.”

Thirdly, Kubie’s system does not fully explain the “representative factor” in the absence of the object, which is an essential differentiation between symbols and signs. We understand by now, that ortho-plasmagene activity is directly the basis of conditionings. It is the basis of object-oriented memory and instinct release mechanism. Parallel to it is the reaction formations positive or negative and in other dialectic variations the activity of para-plasmagene activity. This is “the trace left behind and to this residual trace a response is made as if the original object were still present.” It is the para-plasmagene activity which continues to replicate the biochemical basis of after images visceral responses and sign-traces in repetition-compulsion in obverse-reverse patterns till reinforced or dissociated by pre-existing circuit patterns or exogenous factors. If reinforced either in the positive or in the negative pattern the infentesimal inter-microsomal circuits maintain the circulating memories (33) in what may be preconscious or the unconscious depending upon their heirearchical status in relation to the affective circuits constellation and pattern of activity, at the moment, and in relation to the dominance-recesence patterns of reaction formations, as studied here, as constituents of a symphony.

Conclusions, Summary and Review

The facts of symbol formation, memory and character in psychodynamics are studied in correlation with the parallel facts of biology and allied sciences.

A correlational study of psychodynamics and biodynamics of man in the light of recent work in both the fields leads to the conclusion that the organic basis of psychodynamics in man is the microsome as well as the neurone as a whole. In animals it was the neurone as a whole only, which was the basis of animal mind. The facts which have produced this unit-shift are reviewed in detail.

Symbol-formation and memory characteristics in man are the result, in combination with biophysical and other structural changes in man as well as in combination with exogenous factors peculiar to man, of reaction-formations within the neurones-in-situ of the plasmogene—nuclear membrane—nucleus triangle. The reaction-formations work on the bio-chemical laws of immunology, embryology and genetics. This is supported by evidence from psychodynamics. The reaction-formations are the basis of dialectisation, specialization
(atomisations) and gestalt formations (monistisations and stratifications) or various types at various levels.

The findings of Mackay in physiological psychology, Kubie’s work in the correlation of recent advances in neurophysiology, Sillman’s thesis of the origin of man, Murphy’s findings on symbol formation and structure of personality work of educationists, work of Pavlov, Coleman and Shore’s emphasis on the genetic role of frustrations, Freud’s basic findings supplemented by the author’s extensive work on dream-interpretation and findings of total psychoanalysis are studied in the field of psycho-dynamics. In the biological field the work of Loeb, Mackay, Maclean, Penfield, the genetists Darlington and Mather, Weiner and Cybernetic School, as well as the facts of neuro-endocrinology, paediatrics, Wigglesworth, Allen, Allport and others is studied.

The basic tensions are (i) the intracellular dialectic between viral and adaptational plasmogene activity in cytoplasm and (ii) between cytoplasm and nucleus presided over as a homeostatic agent is the nuclear membrane.

The circuits in the human brain are studied. The biological basis of “representative factor” in symbol formation is studied.

The organic basis and the role of outward as well as inward direction of memory and instincts as well as both the phenomena of instinctual inhibition and forgetting on one hand and that of increased instinctual drive and highly developed memory formations on the other, are studied.

References

According to Kraepelin prognosis of paranoia is always bad. He believes that paranoia is incurable and he is not ready to include under this disorder those cases which respond to treatment. Bleuler also holds the same view. But many modern psychiatrists are of opinion that it is wrong to believe that paranoia is an incurable disorder and many of them would be cured if properly treated. There are cases of paranoia which develop typical paranoid delusions but run an abortive course. Cure in such cases take place automatically and it would be wrong to believe that they belong to manic depressive group. I believe that many cases of paranoia would be cured if we understand our patients and treat them judiciously with sympathy and care. But still there would be a fairly large number of cases with whom all our therapeutic attempts would meet with failure.

In most of the text books on mental diseases the treatment of paranoia has been dealt with very perfunctorily. Kraepelin believes as I have already said that paranoia is an incurable disorder and any form of treatment would be unavailing. Bleuler in his ‘Text book of psychiatry’, did not say anything about the treatment of paranoia but mentioned “nothing could be done with the disease, one has to make the best of it”. He believes that some of the patients are best left to themselves as more one wants to help them worse they become. But there are situations when interference with them would be a necessity. When they are aggressive and dangerous their hospitalisation would be obligatory and if they waste their fortune appointment of guardian would be desirable. He did not believe it advisable that paranoid patients should be kept under restraint for a protracted period of time as their bitterness towards the world would be all the more increased.

Many workers believe that hospitalisation of paranoiac patients is needed not only for preventing them from carrying out their dangerous project just as depressive patients are to be hospitalised for preventing them from committing suicide but hospitalisation is necessary for their treatment also. The patients believe that they are normal and their delusions appear to them as facts and for that reason they do not like to submit to any form of treatment unless they were hospitalised. It is no use arguing with them or attempting to show them that their beliefs are not based on facts and any form of direct attack on their delusions would only make them stronger. Myers gives emphasis on the necessity of thorough study of the patient’s life history in order to acquire all possible facts about him which would enable the physician to understand the patient properly. Being prepared in this way the physician should try to win the patient’s confidence and then proceed to explain and persuade him to give up his false beliefs. Lichtenstein writes that only sympathetic understanding of the patient and establishment of rapport with him would enable one to lessen the intensity of the delusion or stop their further elaboration. He believes that the patient should be made convinced that a person can get false beliefs in certain condition as hypnagogic state and he should be made to realise it and in this way he would develop insight about his false beliefs. He has given a description of conversation with a patient who had been manifesting the delusion of poisoning in his ‘Hand book of psychiatry’. He has said that by this sort of talking when rapport would be established with the patient one would be in a position to influence his delusions and in many cases they would be altogether removed.

Physical treatment.

Electric convulsive therapy and insulin shock therapy have been tried in cases with systematised delusions but results were not at all satisfactory. Henderson has said that in the milder cases with strong affective component good results are possible with physical treatment. We also corroborate this fact. Some of our mild cases with prominent delusions responded to both electric and insulin shock treatment. In acute state sometimes physical treatment becomes a necessity. When the patient is excited, restless and aggressive we have found prolonged hydrotherapy to be useful. In some cases where excitement suddenly appears in an explosive form I have found immobilisation of the patient, a method devised by Bose to be
helpful. In this method the patient is to be strapped with the help of wooden splints in such a way that he would not be able to move his muscles and his eyes and ears should be covered in such a way that he would not receive any external stimuli.

Chemotherapy.

Drugs that are used are mostly hypnotics and tranquillisers. In acute state drugs like barbiturates, rauwolfia serpentina and phenothiazines are used for inducing sleep and allaying excitement. Of all these drugs rauwolfia serpentina was found to be useful. We used the whole root of rauwolfia serpentina and not its alkaloid reserpine as the former gave the better result. The drug is usually given in a single dose of 120 grains and the patient falls asleep within half an hour and the sleep continues for 10 to 12 hours at a stretch and when he wakes up he feels depressed and complains of muscular prostration and the aggressive ideas disappear. The active principles of this drug consists of a resin and alkaloids. The resin is a powerful hypnotic and the alkaloids act on the nervous and circulatory systems. One of the alkaloids lowers the blood pressure and the others two raise it slightly but when the whole root is administered the sum total of the effect is lowering of the blood pressure. When the drug is administered for a long time certain toxic symptoms are produced which affect the nervous, digestive and circulatory systems. Extrapyramidal symptoms, tremors of tongue, hands and legs, vomiting, diarrhoea and profuse salivation are most frequent. Congestion of the conjunctiva running from the nose, slowing of the pulse rate, fall of blood pressure and insomnia are invariably manifested. All cases do not manifest these toxic symptoms equally and some cases exhibit a peculiar toleration to this drug. I have found that patients who manifest these toxic symptoms equally and some cases exhibit a peculiar toleration to this drug. I have found that patients who manifest these toxic symptoms prominently respond better to this treatment. In many cases it has been observed that when toxic symptoms appeared with rauwolfia treatment the patients ceased to manifest delusions but in some cases delusions appeared once again when the treatment was discontinued but there are cases where delusions disappeared permanently. In some periodic variety of paranoia I have been successful in preventing the relapse with rauwolfia treatment. Long standing chronic paranoid patients did not respond to this treatment.

Introduction of phenothiazine in the treatment of mental diseases was a great advancement in psychiatry. Many paranoid and schizophrenic patients became completely free of their delusions and hallucinations as a result of undergoing treatment with chlorpromazine, thioridazine, prochlorperazine and chlorpromazine. Macdonald reported some cases of paranoid schizophrenia who were completely cured of their delusions being treated with triluoperazone. Long standing delusion of jealousy in two female patients completely disappeared within a short time when they were treated with massive dose of chlorpromazine. In one of them the delusions did not reappear when the drug was discontinued but in the other one delusions came back with the withdrawal of the drug and they disappeared once again when the drug was reintroduced. Some cases having systematised delusions responded well when treated with rauwolfia serpentina and chlorpromazine together.

Treatment with endocrine substances is useful in paranoid schizophrenic cases. Testicular, ovarian and anterior pituitary hormones are the drugs usually used for this purpose. I have found good results with these drugs specially in some early cases between 20 to 25 years of age whose prominent symptom was persecutory delusion. Patients with systematised delusions do not respond to this treatment.

Pyrexia therapy.

Pyrexia therapy was also attempted in some of my cases. For production of fever we use sulphosin which is injected intermascularly or T. A. V. vaccine which is injected intervenously on alternate days. The patient would get high temperature on alternate days and in some cases delusions disappeared after 12 such attacks of fever. A case of mine who had the megalomanic delusion of being Lord Buddha got an attack of remittent fever which continued for 21 days and when his fever was over it was noticed that his delusions had disappeared. The experience of this case prompted me to try pyrexia therapy in paranoia. Though I got favourable results in some cases this treatment is not encouraging.

Altering the internal sensation.

As many paranoid patients complain of the presence of
peculiar sensations inside their body attempts were made to change
them. Bose has shown in his paper on 'paranoid ego' that some
paranoid patients would manifest disturbances of the organic
sensations and as a result of it many of them would develop somatic
delusions. These abnormal organic sensations were experienced mostly
in connection with internal organs and some patients got relief from
them after they got vomiting and diarrhoea. Taking the clue from
this observation artificial vomiting was produced in patients by
injecting apomorphine every day but it did not prove to be useful.
Two of my patients showed remarkable improvement after they
received injuries accidentally. One of them fell down from the first
floor and got head injuries and when he recovered from its effect it
was noticed that he had been cured of his delusions also. Another
patient accidentally got himself burnt and his burns were extensive
and very painful. When his skin healed up it was noticed that his
delusions had disappeared. Bose has tried to explain such improve-
ment brought about by accidental injuries by his theory of paranoia.
He believes that in paranoia the ego loses his moorings from its
own body and transfer it entirely to the object and forms secondary
ego from which it can not return to its original one. In severe
bodily disturbance such as head injuries, burns and severe bodily
illnesses the ego returns to the original position as they became afraid
of their body being destroyed.

Occupational therapy.
Paranoiac patients should not be considered as socially lost like
patients belonging to other varieties of psychosis because they could
be useful members of the society inspite of their illness. There are
many chronic paranoiacs who would prove to be useful if they were
employed judiciously to suitable work. I have found that they usually
prove themselves to be good watchmen when night watching is
needed. Some of them would prove themselves to be good adminis-
trators also provided their delusions are arrested but there should
always be the danger of recrudescence of their delusions for which
proper supervision is needed.

It is not usually possible to give proper occupation to the
paranoiac patients so long they remain in the hospital. As a matter
of fact prolonged hospitalisation does not help the paranoiac patients
and on the contrary they become embittered and their delusions get
augmented. For that reason it is desirable that they should be placed
in a congenial environment where they should feel themselves free
and at the same time some control could be enforced on them. Such
social environment could be obtained if they are kept in colonies
like those that exist at Gheel and Lierneux in Belgium where patients
were engaged in cultivation and some other work. I have found that
some paranoiac patients who could not adjust to their home
environment could adjust better when they were removed from their
homes and placed in such industrial concerns as colleries, tea gardens
etc with some easy work that did not require much responsibility.
They were however, constantly under some body's supervision.

Social work and religious pursuits.
It has been noticed that many paranoiac patients would get
themselves adjusted if they take up social work. Many patients of
periodic variety would lose their interest in work before an ensuing
attack of paranoia and some of them would develop weak persecutory
ideas also. In this stage patients would often take up social work
like village reconstruction, adult education and refugee rehabilitation
and get themselves adjusted spontaneously. Bose has shown that in a
family with many paranoiac patients some members who are normal
but potentially paranoiacs would keep themselves fit by being engaged
in social work.

Religious pursuits gave chance of remaining normal to some
paranoiac patients. I have studied some patients who would be able
to remain somewhat normal and adjusted if they join some religious
order and lead the life of an ascetic. In the monastery they usually
do not manifest persecutory delusions but if they are brought back
to society they very often manifest delusions again. A patient who
disappeared from home just at the onset of the paranoid illness was
not to be traced for several years but was ultimately found out in a
monastery near Benaras. Among the monks he occupied a very high
position and other members of the religious order looked upon him
with respect and considered him to be superior in the religious sphere.
His relatives brought him back to the family after much persuasion
but after coming home there was a relapse of his old troubles. His
delusion of persecution reappeared and he started thinking that some
members of his family were attempting to kill him by administration of poison in his food. What is interesting in this connection is that during the period of his stay in the monastery he never manifested the delusion of persecution. Another patient who was a member of a revolutionary party suddenly developed persecutory delusions. As he became suspicious of his fellow workers he left his party joined a religious order and within a short time his delusions disappeared. That religious order maintained several institution for doing social work and he became an enthusiastic worker in one of them.

References

THEORETICAL AND TRANSFERENCE ANALYSIS
M. V. AMRITH.

Psychonalytical literature is now like a vast sea, but some times one gets the impression that analysts like to skim on a wider surface rather than plumb the depths. Nowhere is this more true than in the area of Technique. There are few papers on Technique. In particular the profound insight we have now gained about the immense importance of splitting mechanisms in early infancy should be reflected in the improvement of technique. Here as we go deeper we come across the mortifying realisation that what we once thought of as analysis is really a defence against analysis.

Probably the crudest form of theoretical analysis is intellectual analysis, what is sometimes termed the German-English Dictionary form of analysis. "This is Oedipus Complex, this is passive homosexuality." Such interpretations, without locating them in time and space and also seeing their defensive function, no doubt give the analyst a Trishanku position, an ivory tower, where the turbulent waters of feeling and emotion beat in vain. This, one would like to think, is confined to psychiatrists rather than analysts. Such analysis are sterile, being isolated and split off from the dynamic power of affect.

At the outset let us make clear what is the distinguishing character of analysis as distinguished from all other therapeutic procedures-psychiatrical and medical. What is unique about psychoanalysis—and what incidentally terrifies most people—is the analysts sets about making clearer and clearer and ventilating the danger situations of infancy rather than consciously or unconsciously teaching the patients tricks as it were how to defend against them. Therapeutic procedures are only two—suggestive or analytical. All procedures—by whatever grand names they are called—which do not expose the danger situations really owe their efficacy to suggestion newer and better methods of defending against primitive instinct.

No analyst would under-estimate the importance of the danger situations of infancy. All psychoses and neuroses, all discords and conflicts—whether individual, social or international, including
Dalbeiz states (3), “Whereas the ordinary symbol implies no direct causal relation with what it symbolizes, the Freudian symbol is essentially and by definition an effect of what it symbolizes (as in his observations on dreams)...(Freud's use of the word symbol is in the sense of index or effect-sign.)

One of the fundamental axioms worked upon by Freud in the sphere of dysfunction aberrations and disorders of all memory functions symbol formations and character formation, both normal and abnormal was psychic determinism, that is, that they are effects of changes in affect or emotions. Each of the parafunctions has a cause a meaning in terms of instincts. They were “reactions” or reaction formations as described by Mackay. In this limited sphere the difference between the statements of Mackay and Freud is due to the fact that while Mackay is dealing with neurophysical and neurochemical processes Freud was dealing with mind-content. Both of them as well as A. Myer and workers have emphasized the fundamental function of reaction formations, in particular and psychic determinism in general.

The central hypothesis in this paper, is that the functions of symbols, memory and character are multi-dimensional reaction-formation in terms of neurophysics, neurochemistry and neurogenetics. Character is this reaction-formation of the individual-in-time. Memory is this reaction formation in the cross currents of the efferent afferent circuit with the affective circuit. Symbols or figures are units of human memory and character.

Human memory is directed outwards as in animals but is also directed inwards. Insight and the inward direction of memory is slight in animals. The centrifugal versus centripetal or objective versus subjective memory, worked out, down the ages, in introspection, has been studied by Jung and Eysenck in the phenomena of extraversion versus introversion and as pygmalionism versus anthropomorphism by the author (5).

Sillman (6) has recently put this matter succinctly, "The emergence of man was accompanied anatomically by a slight shrinkage in brain mass, an increase globularity of the brain, and increased fissurization, instinctual inhibition and an increased instinctual drive. These changes can be explained by the hypothesis that the genesis of man was achieved by the expansion of instinctual drives to the point where they were split into two, one part retaining the original direction toward the external world, and the other part being turned in against the self. The turning of the instinct against the subject can be viewed as the primary change responsible for the transformation of Paleolithic man into Neolithic man."

The experiments on conditioning and experimental neuroses in dogs by Pavlov as it occurred in Nature, during the descent of man, might have been the landmark in phylogeny, when this split occurred. As the result of increasing external stress an inner strain occurred in the cytological basis of human brain resulting in a split stated above. It saved the human ancestor from experimental neurosis type of breakdown due to over-conditioning etc, and this became a locus for the action of natural selection. Ontogenetically the vestigial recapitulations of experimental neurosis are observed in neonate and infant reaction-formations of comparatively simple type, under situations of stress. The expansion of instinctual drives was an accompanying process, as studied later.

In addition to human memory being centrifugal and centripetal along with phylogenetic characteristic of association-dissociation or integration-differentiation, it works at the level of association as well as reminiscences (7, 8) and at the level of organ-memory and "value memory".

Murphy has divided functioning levels of personality (9) into the world of symbols and world of values. To avoid confusion, like Freud, between the philosopho-psychological meaning and the psychodynamic meaning of the word, the world of organ-memory may be called world of figures.

It has been studied (10) that organ-memory has Maclean's (11) visceral brain as its main organic basis as pace-maker and "value memory" has the rest of the cortex as its basis as pace-maker. The place of Penfield’s work in the organ-value affect circuit may be studied later. Federn’s body ego (12) has organ-memory and mental ego has "value memory" as its organic basis.

Above-stated Sillman hypothesis of instinctual inhibition and increased instinctual drive is the fundamental dialectic as basic to most psychanalytic and psychodynamic findings. We have to find a neurobiochemical and genetic basis for the negative and positive biochemical feed backs, which are the organic basis of his hypothesis of splitting. This organic basis under different levels of function,