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## Depressions : their nature and treatment

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DEPRESSIONS, THEIR NATURE

AND TREATMENT

by

Harmon Thomas Harvey

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**PART I**

**NATURE OF THE DEPRESSIONS**

## INTRODUCTION

".....the patient says he cannot, his friends say he will not--, the truth is he cannot will". (Reynell) (141)

And of such a disorder we speak today. A condition in which there is a state of psychological defeat and regression, a slowing down of all activities, mental and physical, the patient being possessed with a sense of impotence and futility in human endeavor, making of him or her a helpless, morbid or agitated personality, undesirous of living, self persecutory, and desirous of death.

That a neophyte in medicine should have his attention attracted by such a condition is not unusual in view of the tendency present at this period for an interest in novelty, morbidity, and rarity; that his interest should be held, by such a condition, is unusual, in view of the heretofore considered poor response to treatment, the physician as a rule obtaining as good a response with protective but laissez-faire policy, as with many aggressive modes of treatment.

It was the writers good fortune to spend the past summer as a junior interne in psychiatry at the Douglas County Hospital. Here an opportunity was afforded him to observe and take an active part in the treatment of such individuals. It was here that the prompt response to a new form of therapy in such conditions was first observed, prompting a lasting interest, and resulting in a decision

to write this thesis in order to better understand the nature of this disorder.

## HISTORY

When it is at first observed that a history of mental depression or melancholia is in itself practically a history of mental disease , there is established the fact that mental depression is not a recently discovered disease. The first written mention of insanity that is known is found in the "Ebers Papyrus", written by the early Egyptians in 1550 B.C. Their writings indicate that they were acquainted with mental depression. However, the idea of considering it as a disease entity had not been conceived.

The Hebrews also knew of its manifestations. In Biblical writings, Saul, King of Israel, 1097-1058 B.C. is said to have become mad because of disobedience of divine injunctions, wherefore, "the spirit of the Lord departed from Saul and an evil spirit from the Lord troubled him". According to the scriptures he suffered recurrent attacks of melancholia, alternating with periods of excitement, during which he exhibited homicidal tendencies, finally committing suicide by falling on his own sword. Such a description would of course suggest to us what we would consider as a manic depressive psychosis today. (Harrison) (76)

It was not however, until the time of Hippocrates,

460-370 B.C., ( 83 ) that medicine was placed on a scientific basis. It was he who first attributed the disease to natural causes requiring treatment like other disease, and he wrote, "if fear (phobos) or distress (dysthymia) last for a long time it is melancholia". He insisted upon a special temperament and constitution which tended to melancholia. In keeping with his theory of the four humors, and humoral pathology, he thought that the black bile and phlegm altered the brain in its hottness and humidity, thus darkening the spirits and making melancholy. He insisted upon the importance of the brain as the center of joy, laughter, and jests, as well as sorrow, pain, grief and tears. "It is the same thing which makes us mad or delirious that inspires us with dread or fear. The corruption of the brain is caused not only by phlegm but by bile. Those mad through phlegm are quiet and neither shout or make a disturbance, those maddened through bile are noisy, evil doers, restless, always doing something inopportune." In his classification of diseases of the mind, he included, mania, melancholia, paranoia, and phrenitis. He considered epilepsy and melancholia as different manifestations of the same disease; epilepsy being the result if the body was affected by the disease, whereas melancholia was the result if the mind was affected.

Arateus, ( 8 ) in 80 A.D. is first to suggest the fusion of mania and melancholia, describing melancholia as "a low-

ness of spirits from a fixed and simple phantasy without fever and it appears to me that melancholia is the commencement and a part of mania". He localizes melancholia in the hypochondrium with mania, and considers it as the fundamental form from which other psychotic varieties develop.

Galen living from 130-200 A.D., and Galenic psychiatry as a whole represents a regression since many clear notions were vitiated by his religious views. (Harrison)( 76 ) He however had certain basic beliefs of importance, and in general agreed with the beliefs of Hippocrates. He is quoted as saying, "if we were well acquainted with the physiology of the brain we should assuredly find in its pathological condition both the place and nature of the remedy. Melancholia depends on superfluity of black bile in the substance of the brain; the melancholy humor is a condition of the blood, thickened and more like black bile which exhaling to the brain causes melancholy symptoms to affect the mind". (Galen) ( 67 ) Under his classification of melancholia, however he describes what would undoubtedly be considered as a schizophrenic picture today.

In 476 A.D. with the overthrow of the Roman Empire by the Germans, and the rapid infiltration of Christianity there was put to an end the rapid progress of medical knowledge and practice, and during the dark ages from 476-1000 A.D. there is a long blank in occidental psychiatry.



Throughout Christendom belief in demoniacal possession, incubi and succubi, witchcraft, lycanthropy and such usurp the place of medicine in this field. However with the destruction of the German empire by the Arabians there comes a slight return of mental activity in the field of medicine and psychiatry. (Harrison) ( 76)

During the age of feudalism from 1000-1300 A.D. any real discoveries were held down by fear of persecution by the church and government. This period is sometimes spoken of as the Age of Scholasticism, due to the fact that no proof was needed for anything, anything that was said, being accepted as a fact. During the renaissance, 1300-1500, the Humanists began their search for all the old manuscripts, their stimulus being the invention of the printing press, and with the turning of the century, came the period spoken of as the Reformation. During this century there was a gradual revival of the empirical teachings with reversion to the teachings of Galen and Hippocrates, accompanied by attempts at classification, and recognition of the natural causes, associated with the names of Paracelsus, Weyer, and Plater. (Lewis) (110) (Harrison) ( 76)

With regards to melancholia, little was said that was new during the first half of the century, the majority of writers merely repeating the views <sup>of</sup> Galen. Vallesius (182) in his "Tractus Medicinalis and his Methodus Medendi", com-

pare and judges previous views about melancholia and gives his own opinion that "the disease does not occur unless there be a melancholic tumor generated either in the brain itself (if it is primarily affected) or elsewhere (if it is affected consensually)--the disturbance causes black juices; these obscure the spirits, and hence come fear and sadness". Others of the same time merely repeated his ideas.

Rondelet of Montpellier (151) said that melancholia arose from a mere defect of the brain, or consensually from suffering of the whole body, or finally from the stomach, as "melancholia hypochondriaca". Mercurialis (121) emphasized the occurrence of disorders of digestion in all cases of melancholia, and said that there was also affection of the heart in them, accounting for their special fears.

Felix Plater, (144) a professor at Basle, ushers in the era of individualism attempting to build up an empirical psychiatry by classifying diseases according to their nature and setting up empirically recognized varieties. Of his four divisions, the third, mentis alienation, includes melancholy and hypochondriasis. Prosper Alpinus, ( 3 ) also gives a good description of melancholia.

Riverius of Montpellier, (149) advocated a proximate cause of melancholia, believing that there were poisons generated in the body, which can be taken up and developed best in an atrabiliar constitution. Walschmidt, ( 185) of

the chemical school thought that melancholia arose from abnormal fermentation in the organism. Tozzi, (180) of this same period reverted back to the beliefs of Hippocrates, whereas Johnston (91) followed the views of Aretaeus.

Thomas Willis, (193) often spoken of as the father of modern cerebral physiology regarded animal spirits as the principles of sensation and movement. He believed they were separated out by the brain from its blood; and he sought to find channels through which these animal spirits flowed during mental activity and to the defect or spoiling of them he attributed such disorders as melancholia. Sydenham appears to have adopted these views.

During this century there appeared another reference to melancholia entitled "Anatomy of Melancholy" written by Robert Burton and published under the pseudonym Democritus Junior in 1621. Democritus Junior, was a character described by Hippocrates as a melancholy hermit, who was well versed, and who is supposed to have sought after the cause of melancholy by cutting up beasts.

Burton, although not a physician held his degree of B. of D. from Christs' College, Oxford, and following graduation was appointed Vicar of St. Thomas. In writing this book his intention was to show how closely related were the professions of divinity and physic. "Melancholy being an infirmity of the soul and body, divinity and medicine

must unite in effecting a cure." (Burton) (28 ) (Miller) (125)  
It is said by the author that he "made an antidote out of that which was the sole cause of my disease". He says, "all the world is melancholy, or mad, and every member of it. I can but wish myself and all of us a good physician and a better mind". In speaking of melancholy he says, "It is a disease so grievous, so common, I know not where-in to do a more general service, and spend my time better than prescribe means how to prevent and cure so universal a malady, an epidemical disease, that so often, so much, crucifies the body and the mind." (Burton) (28 )

Burton read extensively and quoted freely from all his reading, including the Bible. In defining melancholy, he describes it as "a kind of dotage, without fever, having for its ordinary companions fear and sadness without any apparent occasion". Regarding etiology he considered a melancholic predisposition as an essential factor. States that it has "origin in black bile". The brain is the seat of reason and the heart the seat of affection, and these two parts are the principle parts affected. Imagination first is at fault and later the reason. Common sense, phantasy and memory were considered by him to be the inner senses. In melancholy he considered phantasy to be highly developed and easily disturbed by things presented to it by common sense and memory. (Burton) (28 )

He wrote that men were more often affected, but women more seriously. "Autumn is the most melancholy season, and the finer wits and most generous spirits are before others obnoxious to it". "Fools and stoics/<sup>are</sup>never troubled by it, since they are free of ambitions, envy, shame, and fears, not troubled in conscience, nor macerated with cares to which our whole life is most subject." ( 28 )

He classifies it as to the portion or the condition of the body it is in or affects. The types being, (1) that proceeding from the brain (2) that for which the whole body is responsible, and (3) that in which the cause lies in the bowels, liver or spleen. He states however, that, "the types are generally mixed in actual practice".

As to the actual causes for melancholy he divides them into two types, the first being general causes, under which he describes supernatural causes such as God, His angels, or from the devil and his ministers. The second type he considered as special causes, under which he discusses the hereditary nature, stating, "a child is as well inheritor of his infirmities as of his lands", and speaks of the importance of gelding all so affected men, and keeping all women so affected away from all men. As to the next special causes he lists food, and recommends moderation and regularity in diet; married life, speaking particularly of the dissension of a mother in law; unkind remarks, "nothing pierceth deeper than

contempt or disgrace, especially if they be of generous spirit"; sickness, "as wine savours of the cask in which it is kept, the soul receives tinctures from the body in which it is kept"; jealousy, "three things cause jealousy, a mighty state, rich treasure, and a fair wife"; idleness; fears; solitude; and poverty.

As the main symptoms he speaks of a vivid imagination, and as for the others he says that they are "as varied as the confusion of tongues at the Tower of Babel". (28)

In his second book he deals mainly with the melancholy of love and religion, presenting many interesting but prejudiced ideas. (Miller) (125)

With the beginning of the eighteenth century, spoken of as the Age of Systems by Harrison, (76) in which classification runs rampant, there is introduced by Stahl in 1708, (167) a new concept of mental disease built around the beliefs of Paracelsus and Van Helmont, who had said and thought that mental disorders sprung from anger, fright and other effects of the mystical *Archaeus*, the life principle, "*anima sensitiva*", the seat of which is in the stomach, and which builds up the organism and dominates all vital phenomena. (137) (183) Stahl, also a vitalist, suggests that mental disorders are an abnormal relationship of the soul inhibited in its regular workings by a strange motive which arises either from the senses or from other bodily functions

or from the mood. He points out the influence of psychic life on organic phenomena--these processes being united into one whole in the living organism by the "motus tonico vitalis". All single functions and organs expressing themselves in one animal economy as instinct in the healthy state, whereas in the morbid condition as "vix medicatrix naturae".

European writings on psychiatry during this century concerning melancholia, dealt mainly with new classification, search after bodily changes, especially in the brain, and crude attempts to apply psychological principles in treatment. (Lewis) (110)

Vogel (184) divides the morbi mentis into six; mania, melancholia, fatuitas, stupiditas, amentia, and oblivio. Boissier de Sauvages (154) divides insanity into three orders, the first being morbi deliri, under which he includes mania and melancholia, he feeling the cause to be a material one located in the brain, the sense organs or the arrangement of the nerve fibers. Melancholia was to him "a chronic afebrile, brooding delirium fixed on a small number of objects". Michael de Valenzi (181) followed the classification of Linnaeus who dealt with the ideal, imaginary and pathetic forms of insanity, melancholia being one of the latter, herein classifying them all as

vesaniae. Metzger in 1793 (122) separates feeble-mindedness from insanity, feeling that true insanity is either febrile or chronic; if chronic it is often ushered in by melancholia, a state of the mind in which it is occupied with sad pictures and thoughts. Sooner or later melancholia passes over into chronic insanity. Sprengel (166) divides disorders of mood into melancholia, mania and fatuity. The essence of melancholy lies in an obstinate fixation of attention on one object and in mistaken judgment about it; from this one-sided activity result the feelings of inactivity and the sad mood; as a proximate cause he assumes such an irregularity in the use of the brain's energy, that it becomes active only with one definite idea, all others having a weakened effect. Dreyssig's classification, (50) shows well the changes of meaning that the term "melancholia" was undergoing. He collects all mental disorders into three forms; mania, melancholia, imbecility; melancholia is a partial insanity, or partial failure of judgment and reasoning capacity, limited to one or a few subjects; it may be true or false; true melancholia being bound up with a lasting sad mood, false melancholia with indifference or cheerfulness; raging melancholy as the highest form approaches mania. The proximate causes he thought to be disturbed balance between the power of judgment and the power of imagination. This relation between mania and melancholia was also spoken of by Hermann Boerhaave (18) who notes, "if melancholia go so far that



the agitation of the cerebral fluid causes the patients to go raving mad, it is called mania". He syncretized the prevailing nosological conception of melancholia in his definition of it as "that disease in which the patient is long and obstinately delirious (deluded), nearly always dwelling on one and the same thought, but without having fever" Morgagni, (127) in his "De sedibus et causis Morborum", denies any complete distinction between the two, mania and melancholia being so closely related that they could not be separated. Schim, (158) a Dutchman, described periodic insanity occurring as outbursts, and Philippe Pinel (143) in 1798 described periodic insanity in more detail, concluding that periodicity had no connection with the nature of the causes, the original site of the malady being in the region of the stomach, whence the attacks radiated.

During this eighteenth century, a number of English writers are of importance, and it is interesting to note that the "Spleen" for long agreed to be a disorder peculiarly incident on the English had been explored by a number of non-medical writers such as Burton, mentioned previously, and Boswell. Cheyne (34) in 1733 wrote a book in which he called attention to the great frequency of suicide among the English, and Pinel (143) pointed out to the English writers who had fallen into the habit of considering this a

importance of inheritance. Andrew Harper (75) in his "Treatise" in 1789 considered there were two sorts of mental disorder besides insanity--melancholia and hypochondria and he had exceptionally notable ideas as to treatment.

Pargeter (138) describes cerebral changes in melancholia, but refrains from drawing any conclusion, remarking that it is uncertain whether these are the cause or effect of the disease. It is interesting to note that he denied any influence of the moon in lunacy.

John Haslam, (78) one time Apothecary to Bethlem Hospital, in 1789 discussed the relationship of mania and melancholia. He did not consider them as opposite diseases. He says, "In both, the association of ideas is equally incorrect, and they appear to differ only from the different passions which accompany them". He objects to Ferriar's insistence on "Intensity of Idea", in melancholia, and writes of alternation of excitement and depression, "when the furious state is succeeded by melancholy, and after this shall have continued a short time, the violent paroxysm returns, the hope of recovery is very slight. Indeed when ever these states of the disease frequently change, such alternation may be considered as unfavorable". (Reference to catatonic schizophrenia?)

Alexander Crichton's "Inquiry, etc.", 1798 (41) describes a psycho-pathological system. The passions accord-

ible with one's duties in society, and he speaks of melancholy as a habitual temperament. His works reflected those of Cullen and are said to have opened the portal to a modern science of psychiatry. (Harrison) (76)

In Germany, Philipp Fischer, (64 ) asserted that to understand the causes properly one must get chronological data to permit of studying the whole psychological state of the patient. M. A. Weickard, (187) makes a division of mental diseases, simple depression and mania being considered as merely disorders of mood, while depression and excitement with delusions, he places under another classification. "With confusion, delusions through preoccupation, sadness, or other passion, it is melancholia; if he is raging, it is mania." J. G. Langermann, (106) a follower of Stahl, advised that in diagnosis one should take carefully into consideration the somatic constitution and individual psychic character, with special emphasis on the tendency to phantasy.

With the beginning of the first half of the nineteenth century, there is a great preoccupation with methods of classifying the forms of insanity, and interest in their course and relations, descriptions becoming relatively more confusing and detailed. (Lewis) (110)

Esquirol, 1838, ( 55) following Pinel, assumed four varieties of mental disorder; mania, monomania or fixed delusion, dementia and idiocy. For the depressive states, once

(17)

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(18)

ing to him work on the nerves by means of the blood vessels, and melancholia is the outcome of inhibition of vascular activity in the nervous system. Sims (213) considered melancholia to be a condition where imaginations of unpleasant experiences were mixed with correct recollections, the sufferer arriving from such faulty premises at formally correct conclusions, such beliefs being very similar to those of John Locke.

Concerning these views of the English physicians, Philippe Pinel (143) wrote with severity, "Severe and impartial examination discloses in them only a vague style of disquisition, repeated compilation, scholastic forms and some scattered facts which occasionally serve to hold the thing together, but do not make up a regular body of doctrine founded on many observations".

From the Italian school comes Vincenzo Chiarugi, (35 ) who supposes in melancholia a preoccupation with one idea, presented by phantasy, the whole state being a product of sad passions.

In France one name stands out alone, in the field of psychiatry, that name being Philippe Pinel. (143) He speaks of his "melancholic delirium", in which the attention was directed exclusively upon one object or particular series of objects, with dejection, gloom and more or less tendency to despair, especially when it goes so far as to become incompat-

ible with one's duties in society, and he speaks of melancholy as a habitual temperament. His works reflected those of Cullen and are said to have opened the portal to a modern science of psychiatry. (Harrison) (76)

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Esquirol, 1838, ( 55) following Pinel, assumed four varieties of mental disorder; mania, monomania or fixed delusion, dementia and idiocy. For the depressive states, once

called melancholic, he introduced the word "lypomania" and instead of melancholia as used at that time substituted monomania. The meaning of the word melancholia had been much perverted and extended at that time. Prichard (145) in defending its use pointed out that from the Greek it meant simply to be mad, to be out of one's mind, without any lowness of spirits; but there was the special medical significance first given to it by Hippocrates, and generally preserved, even to popular usage. Although he did not get rid of the word, through his criticism it was returned to its proper use. Concerning lypomania, he wrote, "we believe that this is a good definition; melancholia with delirium, or lypomania is a chronic afebrile cerebral malady, with partial delirium, kept up by a sad debilitating or oppressed emotion." He separates it from "the habitual state of sadness in some individual", and from monomania, which was characterized by exclusive ideas with an expansive or cheerful emotion. He also separated lypomania from dementia, and with some emphasis, from hypochondria. Regarding relation to mania, he said "lypomania sometimes passes into mania; it is doubtless this change that has caused melancholia and mania to be confused". His influence upon English psychiatrists was considerable due to his lively description of the condition, its accuracy and completeness.

Joseph Guislain ( 72 ) assumed that every mental dis-

order was preceded by a more or less pronounced state of depression.

English psychiatrists of this period devoted much attention to discussions of classification and pathological changes to be found in the brain. Burrows ( 27 ) concluded that "mania and melancholia have one common physical origin, and are one and the same disease. All classification of mental disorders consequently appears to be worse than useless". He discusses grief as a "frequent moral cause of melancholia--often owing to a hereditary predisposition, or the person is of the melancholic temperament". He follows Esquirol in main, but disagrees with substitution of monomania for melancholia.

Prichard (145) is famous for his "moral insanity"-- a term including as he used it all affective disorders without delusions, and used to describe the simple depressions. M. Allen ( 2 ) regards mania and melancholia as "effects of the same power being overactive in different directions", likely to be followed by "a third stage, of exhaustion". Neville, (133) regards melancholy as a partial affective insanity. Conolly of Hanwell, ( 39 ) champion of "no restraint", describes mania and melancholia as "the two principal forms of mental malady" in 1849, and casually differentiates apathy from melancholia in his writings.

In Germany, psychiatrists were especially concerned with general questions concerning the nature and cause of

insanity, with systematic division, predominantly with the question of psychic versus somatic, which was the great question for the first four decades of the century. Burrow's dictum(27 ) regarding this, was, "the best rule, however, for everybody to observe when attempting a judgment on any particular case of insanity, is to take care and preserve his own faculties clear, and as free from the mysticism of speculative philosophy as from the trammels of nosology".

Flemming ( 65 ) divided the *vesaniae* into dysthymia (affective disorders), anoesia (where there are delusions with dysthymic phenomena that are of secondary significance), and mania. Zeller (198) put forward a division into two great groups; one, characterized by the morbid origin, dominance and persistence of affective states with consequent modification of the whole psychic life; and the other, characterized by disorders of ideation and will, deriving not from dominance of an affective state, but representing an independent false thinking and willing without deeper excitation of mood, mostly with the character of psychic weakness. If the first group be considered affective disorders and the second schizophrenia, (insufficiency of psychic activity) the differentiation seems modern. However, Zeller held that the states of the first group precede the states of the second stage, thus he came to regard insanity as showing in its different forms different stages of one disease process which may be modified, interrupted, changed by all sorts of



intercurrent pathological happenings, but which, on the whole, keeps to a steady successive course which can go to complete disintegration of psychic life. (The Einheitspsychose)

Griesinger, ( 69 ) one of the most important names in the nineteenth century, as far as melancholia goes, accepted Zellers view of "two grand groups or fundamental states of anomalies, which represent the two most essential varieties of insanity". The first group represented the recoverable conditions, and included the depressions, mania, and delusional insanity. Hypochondria, simple melancholia, melancholia with stupor, melancholia with destructive tendencies, (suicidal or homicidal) and melancholia with persistent excitement of the will (folie raisonnante, moral insanity, psychopathic character) were all included under the division, depression. He observed, "observation shows that in the great majority of cases those conditions which form the first leading group (emotions and emotional states) precede those of the second group; that the latter generally appear only as consequences and terminations of the first, when the cerebral affection has not been cured." He agreed with Guislain that most mental diseases commence with depression. ( 72 )

In 1853 in England, Skae ( 161 ) of Morningside had propounded a scheme of classification with etiological basis, containing twenty five separate diseases, which was met with varying degrees of criticism and acclaim and which marked the height of classifying activity in England. In 1868 from the

influence of Griesinger in Germany, one finds Henry Maudsley putting forward a simpler view. (119) Following in the steps of Prichard and influenced by Esquirol, in 1868, Maudsley gives a symptomatological grouping into affective and ideational insanity. The affective disorder is the fundamental fact, appearing first, co-existing with intellectual disorder, and persisting for time after disappearance of the latter. He later says that "there are different forms of insanity, that they are not actual pathological entities, but different degrees or kinds of degeneration of the mental organization, in other words, of deviation from healthy life." In speaking of classification, he adds, "when we have to think how a particular case has been caused, what course it will run, how it will end, and what sort of treatment should be used, we do not so much consider whether the symptoms are mania or melancholia as we do what constitutional diathesis underlies, or what bodily disturbance accompanies the derangement. It is certain that we get more help generally from the exact observation and appreciation of such bodily states than we do from the mental symptoms alone; for example whether a mental disorder is maniacal or melancholic is not of much moment, but the recognition of a gouty disposition, of a syphilitic infection, of a commencing paralysis, of a puerperal cause, and the like, will help us much". In his last edition, 1895, classification is scarcely mentioned, the

emphasis now being on the individual, his inheritance and his make up, probably brought about by the influence of French teachings of the time. "The physician will reflect if he is wise, that there is no such disease as insanity, that there are really so many insane individuals to be treated in the concrete". Regarding involuntional melancholia he says, "here as always, the right question is not whether the disease is one likely to end in recovery, but whether the particular sufferer from it, being what she is, is likely to recover".

Savage, (155) another English physician offers a notably simple classification, which is clear in his pictures of types of disorders; he describes simple melancholia, active and passive melancholia, and melancholia with stupor; he notices the relationships of melancholy with periods of life and with bodily disorders, such as gout, cardiac and renal disease. He speculates very little, and in one place remarks that "wise men investigate while fools explain". Bevan Lewis, (113) devotes most of his time to anatomy and structural pathology, but insists on the indivisibility of the mind.

In France, in 1851, Jean Pierre Falret, (57) drew attention to the differences between ordinary melancholia and the periodic variety. Then in 1854, Baillarger (11) described to the Academy of Medicine his "folie a double

forme"; there was a brief controversy as to priority, and Falret at the following session read his paper "De la Folie Circulaire". In it he pointed out the frequency and intensity of remissions and paroxysms in the course of mental disorder, and says that many grave errors have been the consequence of not considering this; "It is also one of the causes for the persistence in regard to partial insanities of the scientifically erroneous doctrine of the single delusion, of monomania. Intermittent disorders have most commonly a sudden onset, a more uniformly continuous paroxysmal course during the attack. Moreover it resembles in all points precedent attacks," and as against the opinion of earlier and contemporary authors he felt it was not malignant nor periodic in the attacks, but rather intermittent and incurable in its essence. He states, "the intermittency may be prolonged, or brief (eight days to a month)". Folie circulair is characterized "by the regular sequence of maniacal state, melancholid state, and lucid interval of varying duration". He considers it "a genuine form of mental illness, because it consists in a group of constant physical, intellectual and affective or total behaviour symptoms". He describes its clinical features, "There is no limited impairment of intelligence or predominance of certain well defined delusions as in ordinary melancholia, but a physical and mental depression, even to the point sometimes of complete suspension of the intellectual and affective faculties". He says it is strongly hered-

itary and commoner among women than men, and adds finally that a classification based on a collection of characteristics related together and following a definite course, is in his judgment not likely to lead to sound prognosis and rational treatment. He expounds his reasons for objections to the older classification with great clarity. His influence on Kraepelin in regard to the manic depressive psychosis may be safely assumed. Magnan, (116) describes a special group in his classification as "folies intermittentes", and in his general description follows that of Falret and Baillarger adding that the form of the attack may be variable.

The distinction between the psychoses and neuroses, (excepting hysteria) was in some measure a product of the nineteenth century; at first grouped under the moral or affective insanities, as by Prichard and Maudsley, more carefully separated by French psychiatrists, beginning with Morel, and regarded as evidences of hereditary alienation or "degeneration", the disorders in which compulsion or anxiety is the chief clinical feature were gradually delimited, but it was not until the present century that the "neuroses" attained a nosological independence that is now insisted upon. In the main tide of psychiatry the occurrence of fear, doubt, obtrusive thoughts and more precisely defined neurotic symptoms in the course of melancholia has long been clearly recognized. (Lewis) (110)

With Kahlbaum ( 93 ), 1876, one stands on the threshold of the modern period in psychiatry. His contributions towards the delimiting of dementia praecox have been often stressed. His importance as regards melancholia, is mainly that of delimiting it as a designation for initial or transitory melancholy, suggesting for stable or definitive melancholy (melancholia in the modern sense) the term "dysthymia", a term already borrowed from Hippocrates by Flemming and Griesinger. This he regards as a variety of mental disease, while the other he considers as only a morbid state. Hecker, ( 81 ) his pupil emphasizes the frequency with which anxiety states, often referred to the precordium may occur in "genuine melancholia".

With Kraepelin, (101) 1896, the classificatory or statistical approach to psychiatry is first exhaustively developed, and the door of the modern period opens wide. Prominent in his work may be recognized the nosological principles of Kahlbaum, the insistence on identity of causal factors, course and outcome as the criteria of a mental disease. The idea of ultimate destruction of the psyche in mental disease (Einheitspsychose) is forsaken, manic depressive insanity and dementia praecox take the field, and in successive editions of his textbook, Kraepelin defines more and more clearly the features of the disease. In his 1896 edition which he describes as betokening "the last decisive

step from the symptomatic to the clinical approach to insanity", he divides all insanity into acquired disorders and those arising from morbid predisposition. Among the former "melancholia" figures as an insanity of the involutinal period; among the latter, periodic insanity is given as one of the constitutional mental disorders; and constitutional mood disorder is regarded as one of the psychopathic conditions (insanity of degeneration). Under "periodic insanity" he describes manic, circular, and depressive forms.

In the following years controversy centered mainly about the independence of "melancholia" of the period of involution, which Kraepelin had given as a separate disease. **Thalblitzer**, (172) 1902, began an attack on the Kraepelinian view, classifying this variety of agitated depression within the manic depressive psychosis, of which he thought it was in clinical form, if not in course, a mixed state. It was only after Dreyfus's monograph in 1907 ( 49) however, that Kraepelin ceased to denominate as "melancholia" the depressive anxiety of the presenium, and accepted it as one of his "Mischzustande". In spite of Kraepelin's attitude, the point continued to be hotly contested. Among Germans: Westphal, Ziehen, Specht, Rehm and Forster; among the French: Regis, Masselon, Ducoste, Deny and Camus contributed to the discussion and in 1910 "die Melancholiefrage" was still being debated when Hoche's famous "Referat", ( 85)

with this title, cut the ground from under the feet of the disputants. Bumke (26), his pupil the year before had published a trenchant criticism of the whole Kraepelinian position. Hoche following up pointed out that in the eighth edition, 1909, Kraepelin had relegated "melancholia" (involuntional depression) from a disease to a clinical picture--and that it no longer mattered whether there was mania or melancholia, occurrence once in life, or many times, at irregular or at regular intervals, whether late or early, with predominance of these symptoms or those, it was still manic depressive insanity. This standpoint Hoche attacked on theoretical and practical grounds, and proceeded to his general thesis that clinically distinguishable "Krankheitseinheiten" do not exist. With incisive sarcasm he derided the systematizing efforts of his contemporaries, "who give the impression of a great number of diligent workmen, most energetically engaged in clarifying a turbid fluid by pouring it busily from one vessel into another". Typical cases are the exception; "It is here that a kind of thought-compulsion, a logical and aesthetic necessity, insists that we seek for well defined, self contained disease entities, but here as elsewhere, unfortunately, our subjective need is no proof of the reality of that which we desire, no proof that these pure types do, in point of fact, actually occur".



He cited the great variety of clinical pictures seen in structural disease of the brain, toxic disorders, etc., and proposed to substitute for diseases "symptom complexes" or syndromes. "Now, I believe that we will make more progress if we make an attempt to find entities of a secondary order, certain constantly recurring accumulations of symptoms which we shall learn to recognize when once our attention is directed to them". Hypochondria, neurasthenia, and hysteria were given as examples of this. He declared that for practical and didactic purposes labelling with names of diseases is unnecessary, "That we can predict the patients behavior; that from certain features, in themselves insignificant, we can yet, as a rule, soon obtain a picture of an individual's inner psychic activity; these facts surely depend not on the existence of disease types, but on experiences of a much more general nature, which are quite independent of the question of the labelling of these states". There are certain regularly recurring symptom complexes which account for the similarity of utterance and behaviour in countless madmen of all times and countries. Certain of these syndromes lie pre-formed and ready in normal psychic life--the melancholic in one of them. There are in the individual case endless possibilities as to form and course. "If the term, 'manic depressive' is meant as a theoretical expression of the close internal relationship of two opposite poles of affect-

ivity, then there are no objections to raise against it. But the name is to be rejected as a disease entity and consequently as a designation of diagnostic and prognostic value. Just because of its close relationship with normal psychic events, melancholia, more than other mental disorders, takes its stamp from the subject's age, sex, and personal temperament, and so too, presents quite special characters when it occurs in the involutionary period".

These views influenced German psychiatry greatly, and Kraepelin in 1920 made considerable concessions in his "Erscheinungsformen des Irreseins", (100). In this he recognized Bonhoeffer's "Exogene Reaktionsformen", and went on to remark how significant it is "that numerous manifestations of insanity are laid down once and for/all by previously established dispositions of the human organism, and therefore run their course in the same way in all cases, given the same conditions. We are thus obliged to limit to the utmost the assumption that this or that disorder is characteristic of a definite disease process".

Adolf Meyer, in America between 1902 and 1905 developed out of his dynamic genetic interpretation a concept of the reaction types, clearly expressed in his paper of 1908. (124). In a discussion in 1904 at the New York Neurological Society he said that "for practical reasons he would rather favor a different classification. On the whole he was desirous

of eliminating the term melancholia, which implied a knowledge of something that we did not possess, and which had been employed in different specific ways by different writers. If instead of melancholia, we applied the term "depression" to the whole class, it would designate in an unassuming way exactly what was meant by the common use of the term melancholia and nobody would doubt that for medical purposes the term would have to be amplified so as to denote the kind of depression. In the large group of depressions we would naturally distinguish our cases according to etiology, the symptom complex, the course of the disease and the results. --- The distinction had best be made according to the intrinsic nature of the depressions. Besides the manic depressive depressions, the anxiety psychosis, the depressive deliria and depressive hallucinations, the depressive episodes of dementia praecox, the symptomatic depression, non-differentiated depressions will occur".

At about the same time the subject of cyclothymia received much attention especially in France. Kahlbaum had collected the mildest forms of circular insanity under the name of cyclothymia. Hecker, Hoche, Wilmanns, Romheld and Ziehen wrote along similar lines. Kraepelin eventually grouped them all under the term "Grundzustande". In France, Deny and Kahn in 1909, had extended cyclothymia to

include not only the mild forms of manic depressive insanity, but also a special morbid predisposition, highly inheritable. (Lewis) (110)

The importance of constitutional factors was recognized by Reiss, (146) and he found fluid transitions between the various types of depression, genuinely endogenous circular forms at one end of the scale and clear reactions to environmental situations at the other. Clinical studies were published in great numbers but were largely occupied with statistics and quarrelling. (Lewis) (110)

Bonhoeffer (20) in describing the exogenous types of reaction served to emphasize the difficulties of an etiological classification. It was clear that the same cause might produce widely different clinical pictures, and the reverse, and that constitutional, metabolic, genetic, and biological factors generally called for consideration, together with careful analysis of the clinical features from a phenomenological point of view. Some thought that salvation lay rather in minute psychological analysis, a different thing entirely, and open to epistemological objections, as they practised it.

Kraepelin (101) had made concessions to Hoche's view, but it was not surrender, manic depressive insanity remaining to him, and to his followers, a disease to be differentiated and delimited. He held as stated before that the

individual brain reacts to trauma of the disease in the manner determined by its own constitution; among these "Erscheinungsformen" he included delirious, paranoid, emotional, instinctual, schizophrenic, verbal hallucinatory, encephalopathic, oligophrenic and spasmodic kinds. But the fundamental diseases remained. His pupil, Johannes Lange, (103) examined in accordance with these principles catatonic phenomena occurring "in the frame" of manic depressive insanity. Interpretations of this was gone into by Lange in the light of exogenous and genetic factors, as well as the time of life. (105) Bonhoeffer (21) showed periodic confusional states to be special variants of manic depressive insanity, pointing out the frequency of compulsive phenomena occurring in depressive states, a subject also spoken of by Stocker according to Lewis. (110) Lange also made a study of depressive states, (104) paying close attention to the somatic and genetic criteria as propounded by Kretschmer. Kurt Schneider (159) dealt with the psychogenic forms of depression, emphasizing the "vital" elements in endogenous depression; in accordance with the philosophic doctrine of Scheler.

Rittershaus (148) did not support the view of Kraepelin, believing like Hoche, while Schroder (quoted by Lewis) (110) accepted pure cases of it as a special disease group but included all complicated forms in a new group, the "degeneration psychoses" or metabolic disorders, in which there

might also be put impure psychotic pictures, odds and ends from dementia praecox, epilepsy, etc.; Kleist, ( 99 ) a disciple of Wernicke, and inheritor of his "motility psychoses", came to the conclusion that one may delimit manic depressive psychosis and set along side of it as of equal value, "motility psychoses", periodic hallucinoses, periodic paranoid pictures, expansive and depressive auto-psychoses, periodic confusional states, etc.--all linked together by their autochthonous development and cyclic course; the whole collection including mania and melancholia, he denominated, "the autochthonous degeneration psychoses". Later under the influence of biological tendencies, he separated pure cases of manic depressive insanity from the degeneration psychoses, and prosecuted his very individual "localizing" method of study. Gaupp and Mauz ( 68 ) have arrived at similar conclusions, calling their rubbish heap "Mischpsychosen". A failure to consider the individual and pathoplastic elements in the symptom-picture may be suspected to be the basis of their problem. The word "pathoplastic" was used by Birnbaum (16), in contradistinction to pathogenetic, when discussing causal factors in the building up of a psychosis; its implications as to structural analysis were the same as those of Kretschmer's (102) "pluridimensional diagnosis"--the necessity, in brief, for considering

the individual upbringing, experience, environment, and setting, when assigning its value to any symptom or group of symptoms. This has been emphasized by Adolf Meyer (124) and by those with psycho analytic convictions or bias.

Ewald, ( 56 ) discussing degeneration psychoses, expressed the view like Thalbitzer that he regarded manic depressive psychoses as endogenous "quantitative diseases", the other members of the group could be qualified with various combinations of the epithets, "qualitative", and "quantitative"; "exogenous" and "endogenous". Hart, (77 ) says, "In another variety of general mental change observed in cases of insanity, the alternation is qualitative rather than quantitative. It may be regarded as a change in the general attitude of the mind towards its experience, either transitory or more or less permanent. Under this heading are included excitement, depression and apathy".

Thus we pass through the age of grouping of similar symptom complexes, of fitting individual cases into definite nosological categories, and of hospitalization into the more modern period of understanding of the individual in whom the illness occurs, and an attempt to determine the "why" of the occurrence of these disorders. The care of the patient has become more important than the diagnosis, and studies of the depressions have come to deal more with the genetic factors involved, the organic and psychological parts of depression, and the pharmacological or medical

heart disease, pneumonia, and tuberculosis in the order named.

Palmer and Sherman (136) in an attempt to determine prognosis in involitional melancholia from a study of the prepsychotic personality of the patient, found that the degree of "rigidity" manifested by the patient in early life history largely determined the prognosis. The greater the rigidity of personality in the prepsychotic phase--the more malignant the psychosis proved to be and less hopeful the prognosis. The more plastic personalities tended to recover, however the presence of a marked compulsive (psychasthenic) trend in early history tends to invariably lead to a bad prognosis. These patients had the most marked agitation, overtalkativeness and hypochondriacal or somatic delusions and were chronically resistive to therapeutic approach of any kind. With a history of pernicious consistent narrowing of the mental horizon, a malignant grade of psychosis invariably followed. Their observations did not tend to bear out those of Hoch and MacCurdy (86) previously mentioned, although they did agree with the opinion that restriction of interest indicated malignancy.

Of fifty men and women patients, 62% failed to recover, all showing marked restriction of mental horizon throughout life. Sixty percent of those who did not recover showed



classic "obsessional character traits", while twenty five per cent of those that recovered showed some tendency towards these traits. Twenty percent of these must be regarded as less malignant disease since the psychosis was characterized by chronic worrisomeness and penuriousness, rather than ritualistic tendencies. Thirteen of those who did not recover were marked by extreme restriction of their mental horizon at all points of their lives. Since involuntional melancholia represents one phase in the development of a life long biologic process, the authors felt justified in drawing prognostic conclusions from an evaluation of the fixity of this biologic process in the prepsychotic stages.

The authors also suggested a more unfavorable prognosis in those cases in which the disease occurs for the first time in men over the age of fifty, and women over forty five. There seemed to be a general inadequacy in the sphere of sexual life noted in both men and women, and there seemed to be some index of prognosis here, since all patients who had children and whose relation to them was good seemed to be found in the recovered group. From they they suggest that there seems to be a harmonizing and balancing influence in normal family life which tends to decrease the malignancy of the psychotic episode.

Washburne (186) repeats the generally accepted prog-

nostic view for manic depressive psychoses, stating that they prognosis is favorable except for the recurring nature, the attacks lasting for an average of about four months.

Robinson (150) in a critical review of types of treatment for the involitional melancholic used the figures of Hoch and MacCurdy (86) who found that in their series, 60% of the patients eventually recovered, in comparing and evaluating the different forms of treatment. He fails to take into consideration however, that they also reported average length of the attack before any sign of improvement to be nine and a half months, which must be considered, since although no more than 60% can eventually be cured, if their length of hospital residence can be shortened by any form of treatment, that treatment would seem to be valuable from an economic point of view.

#### MODERN CONCEPTS

Adolf Meyer's psychobiological view, of the individual as a psychobiological integrated organism reacting to different situations, covers the whole of the phenomena, emancipated from any dogmatic nosological scheme. He (123) considers that we work with a reasonably limited number of reaction sets, that is groups of facts that have a specific meaning for us. These may be of the nature of part dis-

orders--the irritable weakness type, the anxiety reaction, they hypochondriacal, the dysmnestic-hysterical, the obsessive ruminative and the simple defect type of facts, or we consider the more sweeping reaction sets, the thymergastic or affective, the parergastic or twist, the dysergastic or toxic and the anergastic or organic defect complexes, always remembering that any one patient can present more than one of these sets of facts. We study the factors entering into the disorders, the poisons and infections (exogenic) the metabolic (organogenic) components, and then the constitutional and the more definitely modifiable and adjustable psychogenic experience-determined factors and special function tendencies. Ergasia, being the term used for performance of psychobiologically integrated activity in general; thymergastic reactions, in which depressive states may appear as reactions (protective, at any rate in intention, designed to withdraw the individual from an ill adjusted situation), with concomitant phenomena on various levels--vegetative, kinetic, and topical mental, characterized chiefly by diffuse general inhibition. There may be sadness, with feelings of difficulty and dearth of ideas and activity, or actual retardation; catathymic reaction, with harping on one set depressive topic; or the dominant affect may be not sadness but anxiety. Neurasthenia, hypochondriasis, anxiety attacks and obsessive ruminative states

of tension are, together with hysteria, denominated "merer-gastic reactions", by which is meant a substitutive disorder not involving the whole personality and behaviour.

The question of the nature of the so called "involutional melancholias", or a particular type of depression occurring during the involutional period of life has long been disputed. Kamman and Hommes (96) noted that single attacks of depression, in which agitation was the most marked symptom, appeared only at the involutional period of life, and were not observed in young individuals. Jacobi (90) also notes a depressive symptom complex during the involutional period which is not seen at other periods of life. Palmer and Sherman (136) in a study of the early history, life course, and psychosis proper of the so called involutional melancholics, and comparison with the same features of the manic depressive psychotics state that it is difficult to see how involutional melancholia came to be classed as a form of manic depressive insanity. At no point does the patient of involutional melancholia manifest classic manic depressive symptoms or character traits. The worldly outlook of involutional melancholic differs from that of the manic depressive markedly. The outstanding symptom complex according to them in involutional melancholia is agitation or restlessness, Psychomotor retardation is seldom seen. Psychologically, as mentioned before, this agi-

tation may be considered as a belated and inhibited rebellion against the prolonged passive attitude toward life enforced for years by the harsh, intolerant, puritanical conscience. The forces of repression continue to hold sway in the psychosis, in the face of a final belligerent protest of the instinctive demands.

The classic concept of the prepsychotic personality of the manic depressive as formulated by numerous psychiatrists (Meyer, Hoch, Kirby, and Bleuler) is one of labile mood swings, with typically extroverted characteristics, given to frank open expression of feelings and opinions. Certain constitutional diathesis, defined by Kretschmer (102) as "pyknic" type, is also assigned to this character type. Introversion, markedly lacking in lability of mood, constitutionally of the asthenic type, the patient with involuntional melancholia pursues a life course totally different in kind and character from that of the manic depressive patient. The involuntional melancholic fails to show a history of previous attacks of depression, this point also being emphasized by Young (197) who considers that the true involuntional melancholic will not have shown neurotic symptoms before the onset of the menopause.

The more or less easy "trigger threshold" of the manic depressive, the comparative ease with which he is tipped into the psychosis by psychic or other agents, which

many psychiatrist have come to believe is rooted in a subtle, as yet undefined constitutional factor, is lacking in the involuntional melancholic patient. As a matter of fact the involuntional melancholic patient shows extraordinary toughness or resistance to the inroads of psychic and other trauma in his earlier life history. A similar difference in the character of the prodromal period being noted, the manic depressive psychosis being precipitated almost instantaneously, by circumstantial or psychic insult, the period of incubation being short, and being impossible to utilize for purpose of forestalling the psychosis. In the involuntional melancholic on the other hand one finds almost universally the presence of a long, slow growing prodromal period in which the careful observer may witness the psychosis larvating under his eyes and in which wise and tactful interference on the part of the psychiatrist may avert the outbreak of a real psychosis.

Lastly there seems to be a difference in the psychosis itself. The psychosis of involuntional melancholia being characterized by depression without retardation, anxiety with extreme agitation being marked. Psychomotor activity is increased rather than reduced, circumstantiality is lacking and in its place is the tendency toward rigid stereotypy of anxious utterances of a self accusatory, delusional nature. Paranoid elements in the psychosis are marked. The

same rigidity which is present in the earlier life history and distinguishes the psychobiologic process of this disease maintains full sway throughout the various deviations of the psychosis itself. Patients who recover fail to show anything even remotely suggestive of elation or satisfaction at having recovered and having been restored to normal life. The singularly poor prognosis as compared with that of manic depressive insanity is further evidence of the dissimilarity of the two conditions.

Young (197) grants the existence of an involuntional psychosis, however he points out that organic psychoses with depression symptoms (paresis) may often first appear at the time of the menopause. He also points out that depressive psychoses may occur during the involuntional period as well as at any other period of life, but should not be classified as typical involuntional melancholia since the involuntional melancholic depressions are characterized by agitation, harping hypochondriasis, and well rutted patterns of depressive thinking.

Muncie (130) in his recent textbook of "Psychobiology and Psychiatry" follows the psychobiological teachings of his teacher, Meyer, in his classification of the depressions. Thymergasia is used by him to designate all affective reaction types (from thymos--mood and ergon--behavior). Under the

term thymergasia he includes depression and elation. Depression consists of a syndrome of mood fixation or one of its equivalents, depersonalization, puzzle or perplexity; content appropriate to mood, such as self derogatory, self depreciatory ideas; suicidal preoccupation; general slowing of motility; diurnal or daily variation in symptoms of depression; and important physiological alterations, such as insomnia, poor appetite, weight loss, reduction in sexual function, general reduction<sup>of</sup>/muscle tonus, constipation, and reduction of basal metabolism to a mild degree. This is the simple, retarded (inhibited) depression, which he considers to be most dependent upon a constitutional factor.

The anxious depressions are those in which along with a mood of depression, anxiety is prominent feature. Anxiety may be due to specific fears, concern for future events, e.g., retribution for past sins, legal complications for fancied delinquencies, etc. This is the common reaction to important life experiences--loss, tragedy, disappointment--whose potentialities for disaster have not been entirely spent.

The topical depressions are the hypochondriacal, tension, catathymic, and thymonic depression reactions. The hypochondriacal depressions are those in which the complaints of health concern are used to mask the depression.



They occur in naive people who are unaccustomed to speaking of the emotions as such, habitually describing moods and affects in terms of body sensation. In the tension depression there are outward manifestations of tension and to a less marked degree of depression. The reaction occurs in young adults who have achieved success through strenuous activity, with a poor balance in relaxations, and who do not know how to adapt themselves to the exigencies of the difficult situation producing the reaction. The reaction is likely to be prolonged (three to five years or more). In catathymic depression the affect is closely bound to certain topics, on which the patient harps continually; in fact, only in connection with these topics is the depression likely to be exhibited. There is a definite tendency to delusion formation and other allopsychic modification. These depressions are related to specific life experiences and personality characteristics which favor complex formation. The thymonic reactions are closely related to catathymic reactions, but are distinguished by presence of strong affective factors and equally strong tendency to systematization of thought (in direction of depressive delusion). Suicidal risk is considerable and they occur in rigid make-ups in whom the experiential factors precipitating the reactions are of such a sort as to favor the crystallization with a depressive coloring of preformed tenden-

cies to systematizations.

Aversion depressions are depressions characterized by depressive features in addition to which are present evidences of aversion to the facts of the illness and to the medical care it necessitates. Suicide risk is likely to be greatly due to lack of rapport making an estimate of the condition difficult.

Agitated depressions have much in common with the anx-depressions, but are characterized by presence of motor agitation, ~~ad~~diffuse, purposeless motor restlessness, picking, pacing about, jerking of the extremities, and trembling. The mood is expressed as fear or anxiety, and the content relates to disaster about to befall the patient. The reaction occurs in late adult life, commonly after serious loss threatening future security, or as a reaction to promotion with the increase in responsibility which that entails.

Involitional melancholia is a reaction according to Muncie (130) occurring in the "involitional" period, a period of life rather ill defined, but after the height of mature life has been reached, in women associated with the menopause and in both women and men with the gradual decline in the capacities for effort and with the shrinkage in the horizon of development. (45 to 60 years of age). With or without precipitating factors in loss, grief, etc., the patient slumps into a state of relative inactivity, complaining in

a shallow fashion of "depression" without evidence of deep involvement. Tendency to irritability and hypochondriacal complaints and delusions of a bizarre sort concerned especially with the bowels. Nihilistic delusions are common. The reaction is protracted, extending to several years, and is likely to lead directly into a depressive hypochondriacal rut with symptoms of organic deterioration of the assets.

Depressive stupor may be merely a phase in the depression or constitute the bulk of the reaction. It is thought to be simply the ultimate result of depressive slowing, making for inaccessibility, lack of activity, and mutism. It may be accompanied with depressive delusions.

In these and other reaction sets it is not a disease or even a diagnosis that is set forth, but a suggestion of a fairly definite situation, reactions and kind of personality, all of which needs evaluation in any particular case. The insistence is not primarily on the outcome, but on the possibilities of therapeutic modification.

#### SUMMARY

The thymergic reactions are the product then, of constitutional factors (including heredity) and life experience, represented in each case in different proportion. Physiological factors are noted to be of importance, but

appear to be of secondary importance to fixation of the mood. On the other hand, depressions are frequent following on states of physical exhaustion, as after influenza, in which case the physical status must be charged with a direct effect on the precipitation of the depression.

The constitutional factors include hereditary influences and early acquired or ingrained reaction tendencies, (prepsychotic personality). The bulk of the evidence seems to indicate that depressions occur in the direct line of heredity; that is, in parents and children. Kretschmer has stressed the frequency of the pyknic habitus in patients suffering from manic depressive psychosis. (equivalent in Kraepelinian terms of thymergic depression and elation) It is a frequent finding in the psychosis, as other authors (216) have discovered, but not necessary to the syndrome. Along with pyknic habitus is an increased tendency to metabolic disorders in both the patients and in other members of their families: arteriosclerosis, hypertensive cardiovascular disease, diabetes, arthritis, or gout.

The reaction occurs usually in mature life, in people with outgoing social natures, with a tendency to mood swings, and egotropic self concern, and piling up of potentially moody tendencies to the point of serious explosion before seeking relief in ventilation and effort at balance.

The outstanding precipitating factors are those which normally might be expected to produce normal mood reactions of depressions, i.e., loss of the good things of life whether these be tangible or intangible (depending on where the patient places the more value), disappointments in love and in ambition, tragedy, and grief. In promotion depressions, the normal reaction of well being at promotion is overwhelmed by the sense of increased responsibility. In depressions of late adult life, the common factors are sudden threat to the security, or deprivation or shrinkage of the horizon of interests without sustaining assets (as with marriage of the last child in the case of women who have lived exclusively for their children).

The reaction is modified by the age period, race, culture, personality, and precipitating circumstances. It is rare in children and in adolescence, depressions at these ages often being symptomatic or secondary to other reactions, notably problems of adolescent emancipation and their graver forms, the parergasic development. Lange (104) has pointed to an increased frequency of depression among Jews. Adolf Meyer (124) has noted the relative frequency of anxious and agitated depressions in rural population. Simple slowing with little overt expression of mood as such is to be found frequently also in rural peoples. This seems to be a cultural matter, those living close to nature's phenom-

ena showing little facility in the verbal expression of the nuances of emotions, and living a life of submission or resignation to fate (nature).

The usual course of depressions is a phasic one, the symptoms suffering a global increase before a turning point is reached, after which general improvement sets in. The usual outcome is complete restoration of functioning. Unwholesome rut formations as subliminal depressive pessimism, irritability, etc., follow in unstable personalities, or as a consequence of the persistence of the precipitating factors where these are especially important (as in the markedly topical depressions), or from the emergence in the depression of reaction tendencies previously not present or under control (as hypochondriasis, obsessions, and compulsions; neurasthenic invalidism, anxiety states, etc.).

The depression may be an isolated event in a lifetime, may recur, or may be preceded or followed more or less closely by elation. In recurring depressions without "adequate" accounting in the immediate precipitating factors it is wise to scrutinize closely the circumstances of the first attack for experiential data needing ventilation and digestion, which have determined a recurrent pattern of action. The general state of fitness (related to balance of work and play) may play a significant role in some cases of seasonally recurrent depressions. (Muncie) (130)

**PART II**

**TREATMENT OF THE DEPRESSIONS**

## HISTORY

That suggestions as to therapy in mental depression should take us back as far as the first mention of the condition in history would be expected, and with the mention of melancholy by the early Egyptians in 1550 B.C., we find their suggestion offering a prophylactic measure in the form of enteroliths carried upon the person to ward off melancholy. Saul is said to have been cured of his melancholy by the soothing strains of the harp as played by David. ("The evil spirit from God was upon Saul, and the evil spirit departed"). (Harrison) (76)

The practice of medicine as a whole at this time was in the hands of the priest or priest physicians, who claimed to be able to interpret the will of unseen gods and goddesses. They treated and attempted to cure by various mystic processes, incantations and exorcisms. In vogue was the idea of making the body as unpleasant as possible for the intruding spirits or demons. This was accomplished by squeezing, beating, starving, or fumigating the individual. Prayers and sacrifices in the forms of burnt offerings were also offered for the appeasement of the gods. (Lewis) (110)

It was not until the time of Hippocrates, 460-370 B.C when medicine was first placed on a scientific basis, that melancholy was attributed to natural causes and thought to require treatment like other diseases. The center for the



teachings of Hippocrates was at Alexandria at this time, and it is evident that the writings of Plato and Aristotle, although neither were physicians, had some influence upon the treatment of mental disease. Plato, in his Dialogues of Plato, I; 11-13, criticizes the treatment of the day in his remark, "For this", he said, "is the error of our day in the treatment of the human body, that physicians separate the soul from the body".

Asclepiades, (quoted by Harrison) (76) 124 B.C. was the first to advise against the use of restraints in the treatment of mental illnesses and insisted upon a rational therapy, while Aurelius Cornelius Celsus (cited by Lewis) (110) felt that the melancholic should be separated from his sadness by some indulgence in exercise.

Caelius Aurelianus (3) in the fifth century A.D., protested loudly against the use of chains, venesection, and other violent treatment of melancholics. He is said to have allowed no violence to be used in the treatment of his patients and is said to have attempted to fundamentally understand the reactions of his patients.

With the overthrow of the Roman Empire in 476 A.D., however, and with the infiltration of Christianity, the rapid progress of medical knowledge and practice was interrupted and from 476-1000 A.D. Christianity brought about a return to the priestly practice of medicine, and the approach

to psychiatry was through demonology. Patients were treated by exorcism, charms, amulets, torture and the stake, and it was not until the destruction of the German empire by the Arabians that there was any return of mental activity in this field. Rhazes, 850-932 A.D. is said to have recommended the game of chess as a cure for melancholia. (Lewis) (110)

During the age of feudalism and the renaissance, psychiatry as a whole was backward, treatment of mental patients being ruled by the signs of the Zodiac. Following this was the period of the Reformation with revival of the empirical teachings and reversions to the teachings of Galen and Hippocrates. Treatment during the fifteenth century however consisted in elimination of melancholic humours by purgation, clysters, blood letting and baths, the use of hellebore, the specific from Anticyra, application of aromatic poultices, vesicants, leeches around the anus, cautery to the skull with long maintained suppuration and finally working on the patients imagination. These were the main weapons used for combating the "frigida intemperies cerebri, affectio tenebri-cosa". It was in this century that Bedlam Hospital was established, and treatment throughout the century seems far from sympathetic. (Lewis) (110)

Prosper Alpinus (3) recommended as treatment for melancholia, warm baths. Hoffman and Ent advised the use of

blood transfusions, as was used in the treatment of mental disease in general. (Lewis) (110) Treatment during the seventeenth century followed along the lines used previously there being no important advances during this century.

Burton, the "melancholic priest" mentions the close relationship between the professions of divinity and physic and suggests that they must unite in affecting a cure of melancholy. In speaking of the treatment as used at this time and as advised by him, he emphasizes that the patient must not change physicians, and remarks that the patient is often cured in case of a complicating disease. In his classification of cures, he speaks of the unlawful cures and the lawful. Under the former he mentions magic, witchcraft, charms and such, while under the latter, prayer and physic; cooperation of the patient, temperance in diet, continued business, sports, music and merriment, all going to promote a rapid recovery. He points out that the physician should never become angry with the patient, and suggest that the simple herbs are the only physics that should be used. Wine he considered as a tonic. He is supposed to have advocated suicide as a means of escape from melancholy, it being said that he himself at times contemplated it. He also emphasized the use of good reasoning and understanding in melancholy caused by baseness of birth, poverty, servitude, death of a friend, sickness, and

such, giving in each case an example of how to reason with the one so afflicted.

During the eighteenth century, where-in classification runs rampant, therapy as advocated by most English writers consisted in the use of drugs of all sorts, the most favorable being anagallis, arsenic, belladonna, datura stramonium, phosphorus, tartar and other emetics and purges. Electricity was occasionally employed. "Asses" blood was highly recommended, even regarded as a specific by Cardilucci, (30) and Boenneken (17). Boerhaave (18) recommended hydro therapy-- "plunging into the sea, immersion for as long as it can be borne is the chief remedy". John Ferriar (83) advised the use of warm baths to sooth mania, and cold baths for melancholia. Immersion was used by some as a punitive or minatory remedy. Music was recommended as treatment for melancholia by the French writers, Col de Villars (37) and Buchoz (24). Not all measures were gentle however, the barbarous methods of general management, including the whirling chair, which Avicenna (10) long before had advised in melancholia to direct the blood into the proper parts, were prominent in the program of treatment.

Benjamin Fawcett (60) recommended for the treatment of melancholia, the rubbing of the skin with a brush, whereas John Brown (22) strove to excite the opposite passion in the

patient to that which was evident and operative, he thus would arouse a melancholic from his torpor by the cruellest alarms. W. Perfect (142) used electricity in the treatment of melancholia, and Andrew Harper, 1789 (75) made many bold claims as to treatment, many of which were not unjustified. He would have the body looked to as well as the mind; phlebotomy, diaphoretics, purges, diuretics, camphor, quinine, exercise, change of air, warm baths, music, sleep and moderate copulation shall be accompanied by the avoidance of all irritation and unnecessary restraint; isolation he declares especially harmful. One should try to discover the cause of distress, then remove it, give way to every sensible idea, avoid all exhausting activity of the mind, and prevent all unpleasant ideas and overstrung impressions. If these rules could be carried into practice early in the disorder, it would become exhausted and its progress stayed, he held. An admirable doctrine for the times.

Faulkner (59) is also for the psychic treatment of the condition and against the custom of immediately putting the patient into an asylum. Wargeter, (138) liked the use of snuff, which he thought cleared out the unclean lymph from the respiratory passages and sinuses, and especially in melancholia shakes up the whole body through sneezing, and stimulates the nervous system. He also recommended rubbing

the belly with flannel for half an hour morning and evening. John Haslam (78) recommends the use of blood letting for melancholia, but has little use for the other forms of treatment then in vogue.

Vincenzo Chiarugi, 1774-1778 (35), an Italian suggested that the patients should have their attention distracted. Chiarugi is one of the outstanding men of the Humanitarian Era and in his hospital at St. Boniface in Florence was one of the first to abandon fetters and chains and encourage the patients to work about the hospital. He was well known for his kindness and understanding and first recognized the need for better sanitary measures in the mental hospitals of the day.

Philippe Pinel (143) was appalled at the treatment accorded those suffering from behavior abnormalities; they were chained to the floor of filthy cells, uncared for, condemned to a fate they neither merited nor understood. It may well be doubted whether the philosopher or physician or the humanitarian in Pinel could have risen to action but for the help of a courageous head attendant, Pussin, with whom he at one stroke removed the most cruel restraints, the chains. (Muncie) (130)

With the beginning of the nineteenth century, English psychiatrists, as well as those in America and Italy were devoting much attention to asylum arrangements and to the

humanitarian principles of treatment.

Benjamin Rush (153) suggested as remedies for "manalgia" (depressive states) two types of treatment. The first was supposed to work upon the mind through the medium of the body, the second was supposed to work upon the body, through the mind. In the first group of remedies, he suggests cordial food and drinks, he adds however "ardent spirits should be given with great caution, lest a destructive fondness should be acquired for them"; warm baths, heated above the natural temperature of the body, "in which state it acts powerfully upon the arterial system"; cold shower baths in succession to the warm bath; excitement of an artificial diarrhoea, "it doing good, by exciting a revulsive action or disease in a less delicate part of the body than the brain"; caustics applied to the back of the neck, "this remedy acting by the permanent discharge it induces from the neighborhood of the brain"; salivation by ingestion of mercury; exercise, by which he means subjecting the patient to a rotatory motion, "so as to give the centrifugal direction of the blood towards the brain"; labour, since its effects are to "arrest the wrong habits of action, and to restore such as are regular and natural; music of the most invigorating nature; great pain; errhines; certain odours; loud and uncommon sounds; exciting certain stimulating passions and emotions, also the domestic affections; and certain medicines

such as "opium, iron, datura stammonium, strong infusions of green tea and green coffee, garlic, valerian, the nitrous oxyd, and electricity".

Throughout the nineteenth century treatment of the melancholic patient persisted along such lines, the main business of the psychiatrist being the classification or diagnosing of the condition and hospitalization. There are evidences throughout the century of recognition of the significance of the data of life experience, but little used was made of it. There was the appearance of Gall's phrenology, Mesmer's animal magnetism, and Charcot's hypnosis, and on the more practical side the introduction of Janet's suggestion and explanation forms of treatment. Occupational therapy was introduced during this period, its value in treatment being generally accepted, but until formation of the modern concepts of melancholia and depressions, their treatment consisted mainly in hospitalization and protective care.

#### MODERN TRENDS IN TREATMENT OF THE THYMERGASIC DEPRESSIONS

##### GENERAL MEASURES:

The first point in the treatment of a depression as agreed by practically all writers on the subject, is the preservation of the patient's life, which is threatened by



his suicidal urge and starvation. Hospitalization is the most satisfactory solution to such a problem, but as statistics bear out, is not always an infallible approach to the problem. Diethelm (47) and Muncie (130) both point out that it is essential to obtain an evaluation of the suicidal danger in every depressed patient from close observation of the character of the depression reaction in the individual patient, history of previous suicidal attempts, or suicides in the family history. The suicidal risk in those patients in which the urge is evident, and those patients in which evaluation cannot be made due to the poor rapport is demanding of careful watching of the patient. This of course can best be done in a psychiatric hospital where special architectural features and the routine of ward management lessens the risk considerably. Depressed patients treated outside of psychiatric hospitals represent a great assumption of responsibility by the attending physician and the responsible relatives.

Due to the poor appetite, markedly depressed mood and distorted hypochondriacal delusions referring to the gastrointestinal system, many patients present a marked feeding problem. Spoon, and occasionally tube feeding is necessary. Such precautions seem unnecessary yet Diethelm (47) points out that due to faulty feeding and vitamin deficiency, depressed patients have died from a central neuritis. The offering of palatable food at frequent intervals and a little

activity will be more helpful than medication to stimulate the appetite. It is essential that the patient's resistance be increased as much as possible by keeping him or her in as fit condition physically as possible.

Constipation is a complaint that should never be neglected. Otherwise, marked discomfort, and in undernourished, dehydrated patients, impaction may occur. The physician should determine the type of constipation before treating it. In the anxiety states and psychoneurotic states spastic constipation is likely to occur, which is best treated by low residue diets, and small dosages of castor oil. In most depressions one deals with an atonic constipation, wherein it is essential that the patient receive bulky foods, sufficient fluids and salt. Such treatment will take care of most of the cases of constipation, however in the stubborn cases it may be necessary to resort to enemas, or the more powerful laxatives such as cascara, senna, or the salines. As a general rule however, Diethelm considers rectal administrations should be avoided as much as possible, their liberal use cannot be recommended from a psychobiologic point of view.

Diethelm (47) recommends that use be made of the diurnal affective rhythm in psychotherapy, encouragement being given during the morning hours when the individual is the most de-

pressed, urging him to look forward to the afternoon when he will be free from some of the feelings of depression, and then in the afternoon suggesting to him that he should learn to expect the more marked depression the following morning. In periods of more marked depression, occupation is advised which requires little spontaneity, whereas strenuous activity, physically and mentally, and social contacts are postponed to the time when the patient feels less depressed. An active routine from 7:30 A.M. to 9 to 10 P.M. in the average depression seems to prove the most helpful. Development of individual interests in some form of occupational therapy is to be provided during the periods of lessening of the depression. Routine should not become monotonous and interests should be changed after about an hours pre-occupation with one particular interest.

Visitors and mail should be evaluated individually, it always being best to have as few visitors as possible. In deep depressions all business transactions of the patient must be carried out by some outsider. Excessive smoking is to be discouraged, and alcohol should be omitted entirely. Sexual activities should be strictly prohibited.

Muncie (130) points out that friendly encouragement and the assurance of ultimate improvement and recovery, when this is justified by the known facts, are not to be denied the patient, even if he asks for it many times

daily.

Practically all depressed patients sleep poorly, awakening early in the morning with depressive preoccupations crowding in on them. The sleep can be improved considerably when the day can be filled with vigorous activity, however this is not always possible, and resort must at times be had to certain sedative drugs. The barbiturate group seem to afford the best results, and barbital is chosen by Muncie (130) for this use for its slower action and longer effects. The drug is generally given before bedtime, however in the anxiety states smaller doses throughout the day may help to allay the nervousness of the patient. After return of a stable sleep habit there should be a reduction of the drug in such a way that the patient does not know of it. Sedation for tension and agitation may also be secured from the use of the continuous tub bath or cold wet packs.

Muncie (130) considers that when important precipitating factors in the actual life situation persist and continuously confront the patient, it may be necessary to deal with them as effectively as the circumstances permit. The same holds true if the precipitating factors are worries or broodings over memories or persistent preoccupations. Every effort must be made to clear the atmosphere by ventilation of the material and its reformulation in a more useful form. Such for example is the reformulation of worry over sex mis-

adventures which will credit extenuating factors, yet which does not simply whitewash the affair.

Treatment is not only supportive, but also active in readjusting the situation and modifying the personality. Depressive rut formations occur when unmodifiable factors of a significant sort for the precipitation of the illness persist to the continuous discomfiture of the patient. The inducement to get well is therefore lacking.

In the convalescent phase, a recapitulation of the illness is attempted. This will probably throw new light on certain factors previously ignored or minimized. A personality study stressing the need and opportunity for a mental hygiene of the affective life is made. This commonly points to a need for opportunities for confiding difficulties before the affect reaches explosive proportions.

The general treatment of the depressive states thus aims at the hindrance of suicide, prevention of irritation, provision of adequate nutrition, sleep and rest, and in due course, occupation and interests, with attempts at alleviation of the psychic trauma incident to the depression. These aims have in recent years been the objects of judicious treatment, the physician being conscious of the fact that of the factors potent to heal, time was the most important. However in more recent years this has been challenged by the advocates of psycho-analysis and more aggressive modes

of treatment which are now to be considered.

#### HEMATOPORPHYRIN THERAPY:

Hausmann, 1916 demonstrated the photodynamic action of a decomposition product of hemoglobin, hematoporphyrin, and the same author and Huhnerfeld reporting separately but at the same time fifteen years later reported that injections of the substance into animals made them aggressive, overactive, and quarrelsome, especially after exposure to light. Huhnerfeld in 1930 used the drug therapeutically in thirteen cases of depression, with beneficial results being noted in eleven of the treated cases. (87 )

Notkin, Huddart, and Dennis (134) used the treatment but without as encouraging results as Huhnerfeld in 1935, using dementia praecox patients and patients classified as involuntional melancholias, only one of the latter out of a series of ten showing considerable improvement. Angus (5) states in his article of 1936 that he accepts the drug for use in mild depressions as being of some value, however he wished to determine its value in those cases which had long been resistant to therapy. He chose forty one such cases showing depressive symptoms including in the group manic depressives, involuntional melancholics, and schizophrenics, along with a few psychoneurotics and three miscellaneous with organic disease. Six of the manic depressives, one

schizophrenic and one psychoneurotic recovered. Ten others improved considerably, and five showed slight improvement, the remaining eighteen were unaffected. He concludes that he has no explanation of the action of hematoporphyrin, that there are no toxic effects if the drug is used properly, that if improvement occurs, it occurs early in the course of treatment, that improvement seems lasting, and that hematoporphyrin has a definite value in the treatment of the symptomatic depressions.

Steinberg (169) used hematoporphyrin in the treatment of fourteen cases of depression, in which he included only those patients diagnosed as manic depressives or involuntional melancholias. In his results one patient recovered for six weeks, one recovered at a low level for a longer period of time while the remaining twelve showed no demonstrable change. He concludes that the use of hematoporphyrin is overevaluated and the results obtained do not warrant its continued use.

Huhnerfeld (87) in a review of the literature on the subject still advocates the use of hematoporphyrin in the manic depressive endogenous depressions. He says that in Steinberg's failure, underdosage was to blame, and that depressions with inhibitions respond best to treatment, those showing anxiety complexes and hallucinatory trends responding the most poorly. He states that hematoporphyrin is photodynamic, stimuletively tonicizing (weight gain and

increased haemopoetic activity) and vegetatively regulatory (lowers blood calcium, blood sugar, and increases potassium level in the blood), and suggest that failure to respond to treatment may be due to pathological physiologic processes intimately related to the porphyrins. Liver disease and acute febrile conditions are the only contraindications to hemataporphyrin therapy.

Angus (5) states that Huhnerfeld's belief that improvement was due to lowering of the blood calcium did not hold in his own investigations since he found this to be only transient and to occur in the unimproved as well as in the improved cases.

The theory of the drug's action as held by European authors is that hemataporphyrin sensitizes the tissues to light, this sensitivity secondarily conveying a stimulus to the vegetative nervous system through the sympathetic centers, thus resulting in an elevation of spirits and release from inhibitory tensions, thus overcoming the diminished neuromuscular irritability.

Another author suggests that hemataporphyrin absorbs light energy and is oxidised, breaking down and passing over part of the energy to protein for use by the body.

Hutschenreuter (quoted in 5) in his investigations states that he finds almost the same amount in the feces as that



given by mouth and therefore suggests a catalytic or enzymatic action.

From what has been said it is evident that very little is known about the manner in which hematoporphyrin aids in the treatment of the mild depressions, if it is of any value. That it has its toxic effects in large doses is well recognized and acute hematoporphyrin resulting in acute ascending paralysis and visual and auditory hallucinosis has been mentioned in the literature. Thorner (173) in 1937 reported a case of peripheral multiple neuritis presumably due to administration of hematoporphyrin hydrochloride for the treatment of psychotic depression. The neuritis appeared with the administration of the drug and disappeared with its withdrawal. There have been other articles in the literature regarding hematoporphyrinuria and neuropsychiatric disturbances. Thorner states that occurrence of these phenomena along with dysfunction of the nervous system (Landry's syndrome) was noted by Erbsloh, and since by Courville, Therrmitte, Abderholden, Beilin, et al., all cases terminating fatally. He also states that psychotic disturbances have been described by Eiehler, Thiele and Courville, and Sacks has reported a case of muscle atrophy in conjunction with hematoporphyrinuria. The pathology of these cases have largely been degenerative lesions of the

cortex cerebri, and substantia grisea of the spinal cord. Some degenerative lesions of the peripheral nerves have been found.

#### BENZEDRINE SULPHATE THERAPY:

Benzedrine, a sympathomimetic compound related to ephedrine and epinephrine, chemically beta-phenyl-iso-propylamine, and marketed as the sulphate has the known pharmacological actions of a "pressor" effect, a profound stimulating effect on the higher centers of the central nervous system, causes a rise in blood pressure, slight constriction of the peripheral vessels, increases the pulse rate, and relaxes the spasm of the gastro intestinal tract. It was first used for relief of nasal congestion, where its actions as a central nervous system stimulant was observed, and it has been used by Myerson to relieve gastro-intestinal spasm during radiological examinations, and by numerous authors in the treatment of narcolepsy.

Guttman (73) in 1936 used benzedrine in the treatment of the mild depressions and studied the blood pressure changes. He reports an increased psychomotor activity and lifting of depression in the mild cases and finds no correlation between blood pressure changes and changes in the mood. He feels that the full value of benzedrine sulphate in depressions lies in showing the patient he can

feel better, permitting psycho-therapeutic efforts and possibly breaking up of a vicious circle.

Wilbur, Maclean and Allen (191) used the drug in a hundred cases of disorder of the mood (depression), chronic exhaustion, and psychoneuroses, using doses of ten to twenty milligrams before breakfast and repeated at noon if necessary. Eighty percent of his cases showed immediate effects of the drug to be beneficial, however in those patients with anxious, nervous, psychoneurotic symptoms, the drug had less beneficial effects. They conclude that it is not wise to recommend continuous use of benzedrine unless the patient is less than sixty years of age and presents no evidence of cardio-vascular disease and can be closely observed during the course of treatment.

In a later report (192) the same authors report on ten patients in the depressed phase of manic depressive psychoses. Seven of these experienced marked relief and three noted exacerbation of the symptoms. Those patients who experienced relief had not been severely depressed.

Davidoff and Reifenstein, (44) in a comparison of responses of normal persons and depressed patients to the drug conclude that the stimulating effects of the drug are more marked in normal persons than depressed or self absorbed patients. The increase in motor activity, speech activity and general efficiency is more marked than the elevation of

the mood. The value of the drug seems to be more marked in the organic depressions, particularly alcoholic, than the psychogenic, this fact being of some aid in differentiating between alcoholic depressions and alcoholic depression superimposed upon psychogenic depressions, since improvement will be noted in the former cases. They do feel that benzedrine may render self absorbed persons more accessible to investigation and psychotherapy, however, beneficial effects may be counterbalanced by untoward reactions occurring in the course of administration of the drug. They note a weight reducing side effect of the drug, and feel that any benefit to be noted by the use of the drug will be seen after a short course of therapy, and that there is nothing to be gained by prolonged administration of the drug. Benzedrine sulphate may accelerate the rate of improvement in those cases in which ultimate recovery is likely to be the inevitable result, is their final conclusion.

Dubb and Lurie, (51) used benzedrine sulphate in the same dosages as Wilbur, MacLean and Allen in forty eight cases of depressed female patients. 25% were permanently improved, 50% were temporarily helped and 25% showed no improvement. They concluded that the drug is of some benefit to the majority of depressives because of the effect on the mood and the increased psychomotor activity. Patients

are rendered more accessible and are more cooperative, enabling physicians to direct their activities along proper lines. Best results were seen in the cerebro-sclerotic type of patient and the paranoid group, dementia praecox responding poorly if at all. A tolerance to the pressor action of the drug seems to be frequently developed, however the drug itself is not habit forming. Authors also report that the continued administration of the drug may bring about some change in weight.

Fenkleman and Haffren, (62) have most recently reported on the use of benzedrine in severe depressions. Fifteen patients were treated in their series, in which only one showed any improvement, whereas three became excited. They concluded that benzedrine sulphate may be useful in the mild depressions but that it is of no value in the severe depressions. In fact, it may be harmful in severe depressions with agitation, the drug seeming to increase the agitation and mental unrest.

#### ESTROGENIC THERAPY:

It is not surprising with the introduction of the present day concept of endocrine relationships by Sevringhause, that the cessation of function of the ovary at the time of the climateric, was seized upon by a number of investigators as the possible etiologic factor in the produc-

tion of that psychosis, spoken of as involuntional melancholia.

Werner, (188) in 1934 first reports in a preliminary paper the experimental use of Theelin in the treatment of twenty one cases of involuntional melancholia. Twenty others were used as controls, and although the dosage of Theelin administered was considerably lower than that used by later workers he reports that improvement in the twenty one treated cases was accelerated. With a favorable response, improvement was gradual and continuous he observed, and he suggests that larger doses might be of some additional benefit. After the patient became rational it was found that they did better under home surroundings with treatment being continued for two months after apparent recovery.

A year later, (190) he describes a syndrome accompanying deficiency or absence of ovarian follicular hormone. In his series of 197 patients with ovarian deficiency in the menopause, were 48 involuntional melancholic patients. He suggest that ovarian hypo-function may be due to cystic degeneration, inflammatory processes, secondary to constitutional disease, primary, as in cases of vitamin deficiency, and enuchoidism, or secondary as in deficiency of anterior pituitary secretion or ovarian castration. The syndrom consists of objective and subjective complaints, the former being the presence of menstrual disorders, obesity of the

gonadal type, atrophy of genitals and breasts, whereas the former may be nervous, circulatory and general. The author concludes that these symptoms are set up by ovarian deficiency leading to secondary pituitary, thyroid and suprarenal upset, since they occur in castrates and biological tests show excessive amounts of anterior pituitary hormone in the blood. In one case there are no ovaries to respond to stimulation, and in the other cases, the ovaries are present but do not respond. Involutional melancholia is an exaggeration of the menopausal syndrome and the patients receive the same help from the endocrines as do those in which the symptomatology is not so far advanced, he concludes.

Werner, (189) in a third article states that symptoms of depression, crying, decreased memory and ability for mental concentration, accompanied by mild degrees of psychoses occur frequently at the menopause. If this becomes exaggerated one has involutional melancholia. At the climacteric there is cessation of the action of the gonads, resulting in an imbalance in the anterior pituitary, the thyroid and adrenal (both the medulla and the cortex) leading to a disturbance of equilibrium between the two divisions of the autonomic nervous system. In a course of substitution therapy the author uses one cubic centimeter (50 rat units) a day for six months or one cubic centimeter (300 rat units,

in oil) bi-weekly for the same period. In those patients with previous mental disturbance and involuntional melancholia added to it, prognosis is very poor for this type of treatment. However he reports marked improvement in 65.66% of his cases and moderate improvement in 25%. The author thus concludes that theelin is curative in uncomplicated cases of involuntional melancholia (no previous mental disease during life) accelerating recovery and shortening the period of mental illness, the prognosis being favorably influenced by early diagnosis and treatment, and unfavorably influenced by history of previous mental disease.

Mazer and Israel (210) and Tarumianz (214) have also reported favorably as to the value of theelin in dealing with menopausal psychotic symptoms. Ault, et al. (189) states that "for all practical purposes theelin seems to be a specific in involuntional melancholia, the recovery rate being 92% in our series of cases".

Jones, MacGregor, and Tod (92) report on the use of estradiol benzoate in cases showing definite depression without retardation, agitation, partial or complete loss of interest in surroundings, insomnia with suicidal intentions. They found excessive amounts of gonadotropic hormone in the urine, which was reduced with the use of estradiol benzoate. They conclude that their results agree with



Werner, et al., and Bowman and Bender, both of whom regard oestrin as having definite effect in accelerating recovery in uncomplicated cases involuntional melancholia.

Carlson (32) in attempting to find some difference between normal women in the menopause, and those developing involuntional melancholia, as far as ovarian activity can be determined, tested the urine for gonadotropic hormone, and found their results in those patients with involuntional melancholia to compare favorably with those of normal women in the menopausal period. From this he concluded that the endocrine changes present in involuntional melancholia are not the only factors concerned in production of the psychosis.

Dynes (53) states that all clear cases of involuntional melancholia should at least be given a try at estrogenic therapy. Hays (80) states that he has found estrogenic hormone therapy to be of little value in involuntional melancholia, other than to ameliorate the symptoms of the menopause, whereas Young (197) suggests the use of follicular hormone in nervousness due to vegetative changes associated with the menopause.

Robinson (150) warns against the indiscriminate use of estrogenic therapy of depressions occurring during the period of the climacteric, especially by the general practitioner, and emphasizes the fact that the role of the endo-

crines in etiology of the involuntional psychoses is merely one of many factors contributing to the precipitation of a psychosis at this period.

#### PREFRONTAL LOBOTOMY:

It has been recognized for many years that euphoria and indifference are the only prominent symptoms in cases of severe frontal lobe injury. Breckner and Ackerly found that a considerable portion of the prefrontal areas can be removed in man without lowering general intelligence, although certain characteristic alterations in behavior occur. Fulton and Jacobsen in their experiments upon the primates, found that following bilateral prefrontal lobectomy, the apes did not fly into a rage from the difficulty of a test problem which before the operation would always result in such affective symptoms. In 1936, Egas Moniz (212) first attacked the frontal lobes of man for the treatment of mental disease, believing some of the symptoms might be due to formation of synapses in cortical association centers that would become a fixed pattern and therefore tend to perpetuate themselves to the detriment of the personality as a whole. By breaking these he felt there was the possibility for reorganization along different lines. He first used alcohol injections to bring about this disorganization of cortical association fibers and then at a later date began using

the leucotome knife, a small instrument for removing small areas of brain tissue, through small craniotomy openings . He reported best results in agitated depressions, severe anxiety states, and melancholia.(Breckner & Ackerly, and Fulton & Jacobsen quoted by Freeman & Watts) (66).

Freeman and Watts (66) were the first to use this method in the United States and reported its use in one case, an agitated depression in a woman 63 years of age with immediate recovery. Their first report was in 1936 and since that time they have reported 25 cases, their best results being obtained in the affective disorders. Lawrence (108) in 1938 reports improvement in a case of agitated involuntional psychosis, and suggests that the disappearance of agitation and depression may mean a loss of the ability to worry or feel depression.

Lyerly (115) later in 1938 seems to have made the most important contribution along this line up to date. Previously as the author emphasizes, the operations have been largely blindly carried out, much on the same order as poking a stick in a pot of beans, stirring them about and then attempting to guess just which beans have been touched by the stick. The author feels that the number of patients who have not been aided by such a blind operation may be said to be unaided due to incomplete interruption

of all the prefrontal association fibers. The author has therefore perfected a new technique whereby visualization of the field in which he is operating is completely visible, and he is able by merely cutting with a sharp knife, to feel that he has interrupted all of the prefrontal lobe association fibers. He reports upon fourteen cases of involuntional melancholia, thus treated, in which there has been improvement and recovery from the depression in all cases. He feels that with such results further investigation must be carried out in such a direction, since the present day poor prognosis for such patients warrants the use of such drastic and somewhat dangerous procedures in attempts at their cure.

#### OTHER SPECIALIZED PROCEDURES:

Psychoanalysis, a highly specialized form of psychotherapy is in wide use today in the treatment of all forms of mental disease. Theoretically it should, in skilled hands, correct and relieve every patient. Practically, there is so much of an interplay of personalities, that is, therapist and patient, that failure is common due to difficulty establishing perfect contact. It is expensive and the procedure lasts many months, its use thus being limited. The advanced or severe psychosis cannot be approached by this method, and without cooperation of the patient little

good can be done. Less formal types of psychotherapy in conjunction with special procedures such as metrazol convulsive therapy, seem to be equally effective.

Prolonged narcosis, which consists of maintaining the patient in a state of narcosis through the use of somnifaine, and various combinations of barbiturates, for a period of a few days to several weeks, according to Henelly (82) was originated by Wolff in 1901, and has been written about by Klasi, Bleckwenn, Witt and Cheavens, and others since then. The procedure was thought to be of special value in the maniacal, disturbed patient, but seems to have some value in certain types of depressed or melancholic patients. The treatment is thought to be beneficial by insuring prolonged rest--effecting a lessening of the emotional tension, and inhibition--with correction of faulty modes of thought and action. The treatment is time consuming, requiring constant watchfulness since it is not without its dangers, several deaths having occurred during its use. It is not in general usage today, having been discontinued by most hospitals in which it was once employed.

#### METRAZOL SHOCK THERAPY:

Ladislav v. Meduna ( 211) in 1935, upon a basis of the observations of Nyiro and Jablonszky, G. Muller, A. Glaus,

and others who had studied the concomitance of epilepsy in a few cases of schizophrenia, and who had concluded that epilepsy militated against the development of the schizophrenic, there was formulated the hypothesis that "between epilepsy and schizophrenia there is a biological antagonism. Should it be possible to induce epileptic attacks in schizophrenic patients, such epileptic attacks would change the chemical, humoral, haematological and other aspects of the organism in such a manner that thereby--since the organisms so changed would represent an unfavorable basis for the development of schizophrenia--a biological possibility is given for a remission of the disease." As a result after extensive investigations as to a proper convulsant, Meduna selected as a convulsant pentamethylenetetrazol, a camphor derivative marketed under the trade name of "metrazol". His results report a high percentage of remissions when used in the treatment of schizophrenia.

His findings were corroborated by a number of European workers, including Wahlmann (215) who included in his series of cases one manic depressive psychosis, which responded remarkably to treatment of this nature. He discounted this remarkable response in view of the fact that changes frequently occur spontaneously in this type of psychosis and warned that no definite conclusions could be drawn from this one

Case.

Since the original work of Meduna interest has been aroused in America, Friedman in 1937 being the first to report its use in cases of schizophrenia in America. Since his report, innumerable reports have appeared in the literature as to its value in that type of mental disease.

It was Low (114) however who in 1938 seemingly followed up the work of Wahlman and used metrazol shock therapy in the treatment of manic depressive insanity, his report including sixteen patients with manic depressive psychoses, five of whom were in the manic state, nine of whom were depressed, and two of whom were considered as of the involuntional type. His conclusions suggest a high recovery rate and he suggests that such treatment is of value in cases of manic depressive psychoses and functional disease.

Bennett, (13) in the same year reported on the use of metrazol shock therapy in ten severe depressive psychoses, and found that the length of the depressive psychosis was markedly shortened, suggesting that the age of the patient was no contraindication to therapy. Young (195) a month later also reports favorably on the use of metrazol in the depressive psychoses, pointing out that those of the affective type responded most favorably to treatment. In his series of nineteen cases, ten recovered, eight were markedly improved, and the one that did not respond had a history of re-

current depressions with no marked affective disturbance evident. Schachter (13) noted improvement in two cases of hysteria, four anxiety states, and three depressed patients, using sub-cutaneous metrazol. With the psychoneurotics they suggest that a better rapport for psychotherapy is established, and they feel that the shock therapy produced a cessation of the anxiety states. Montassut and Lemaire (13) treated the depressed states with polycamphosulphonates in non-shock doses, finding that the milder depressions disappeared, but the severe ones were not aided.

Steinberg and Nurenberg (168) feel that metrazol is of value in the treatment of the manic depressive psychoses of the depressed and mixed types, as well as in the involuntional psychoses. The Youngs, (196) in 1939 report upon the use of metrazol in twenty one cases of depressive psychosis, the age variation being from 21-65, all but one of the twenty one cases showing recovery. From their observations the strictly depressive psychosis and the tension depression as described by Muncie (129) respond most satisfactorily. Depression with anxiety responds less favorably, whereas the presence of schizophrenic or catathymic material effect the response unfavorably.

Dawson (46) gives no definite results, however he feels that this form of treatment is of more value in treatment



of melancholia, than in schizophrenia. Cottingham and Gavigan (40) in a report of twenty female patients of the involuntional and manic depressive reactions, find seventeen to give a complete remission, whereas the three who did not respond were all past fifty years of age. They suggest that the return of normal motor activity is the first indication of improvement, followed by lifting of the mood, the delusions being the last symptoms to disappear.

Grotjohn, (70) reports on a case of severe depression in which agitation is prominent, in a woman, age 54, with a history of hereditary tainting, and two previous depressions, in which the use of metrazol shock therapy, followed by psychotherapy after communication was established, ended in complete recovery of the patient. Hays (80) reports the recovery of two cases of emotional depression with agitation and self accusation, which he classified as involuntional melancholics. Lemore (107) feels that "the immediate recovery or marked improvement which results makes the risk involved worth taking when the long duration of the illness and the intense suffering of these patients and their families which they usually have to endure is considered".

There have been several theories as to the mechanism by which metrazol convulsive therapy improves mental patients.

Meduna's theories have been stated. Friedman (209) suggests that the stimulation or irritation of the whole central nervous system results in a breaking down of the "barriers" to certain thought processes, thus allowing them to be carried out properly. Gellhorn (208) believes its benefits lie in the fact that it is a powerful sympathetic stimulant. Jackson (209) has expressed the belief that the sudden powerful rise of the systemic blood pressure caused by the acute convulsion forces open brain capillaries or larger cerebral vessels, increasing the flow of blood throughout the brain, supplying sufficient oxygen to the cerebral cells to enable them to carry out more or less perfectly their normal function which had been depressed by some obstruction to the blood supply of the brain cells. He suggests that failure in treatment in cases of prolonged psychoses may be due to too great an organic deterioration of the brain cells before institution of treatment so that complete restoration cannot be obtained.

Dancey and Lehmann(206) feel that possibly metrazol has a direct physiochemical effect on the colloidal structure of the changed cells in the brain, helping to restore the condition of these cells to a more or less normal state. Lemere (107) believes that the benefit from metrazol in manic depressive psychoses, is due to a detonation of an

overly active diencephalon. By studies on cats, Gellhorn and Darrow (205) conclude that metrazol increases the excitability of both the somatic and autonomic nervous system, and Bennett, in 1938 suggests that the psychophysiological reaction may be a profound circulatory shake up resulting in altered cerebral function, a direct action on the autonomic centers, an induction physiologically of something similar to the prefrontal lobotomy of Moniz, or there may be a psychological effect in the way of providing for the patient a means of proving to his conscience his ability to take punishment, with a subsequent resolution of guilt and lifting of depression.(13)

Ebaugh and Shanahan (54) in 1939 in a comprehensive review of the status of chemotherapy in the depressive psychoses, state that there is no satisfactory explanation of the action of metrazol in bringing about improvement in these conditions, however they do feel that it is not the metrazol itself, but the convulsive shock produced by it that is instrumental in bringing about improvement in these depressive disorders. The fact that triazol has been used by Walk, Alexander, and Mayer Gross; picrotoxin by Low, Blauroch, Sacks, Wade, and Ross; and coriamyrtin by Swanson, Ebaugh and Shanahan, with similarly favorable results would seem to bear this out. In fact the authors

suggest that triazol (4-cyclohexyl 3-ethyl 1-2-4 triazol) does not have some of metrazol's disadvantages. (54) At the present time they are attempting to bring about a cerebral anoxemia in mental patients suffering from depressive psychoses, upon the hypothesis that this is the "modus operandi" of metrazol convulsive therapy, and they suggest that although their experiments are still in the experimental stage, there are enough favorable responses by such therapy to warrant further investigations along this line.

Hackfield and Halvorsen (74) suggest as an explanation of the action of metrazol convulsions in bringing about improvement in these conditions, a dual physiologic response, the convulsion representing a process of decerebration and abreaction on the motor level (expression of impulses thru non integrated muscular reactions). This abreaction in the sense of living out represents a release of pent up tension on a physiologic level without invoking the process of verbalization (otherwise utilized in psychotherapy). Upon awakening the patient has complete amnesia for these primitive reactions, thus avoiding further development of guilty feelings and there occurs a gradual liberation of aggressions into constructive channels. Depending on the degree of motor integration the organism had obtained in terms of previous adjustments prior to the suppression of such out-

lets thru objective precipitating factors, to that degree the remission is more satisfactory. This they feel explains why the best results with convulsive shock therapy have been obtained in the involuntional depressive psychoses. In such cases in their series, they report a 100% remission rate in private cases wherein it was possible to utilize psychotherapy in conjunction with the convulsive therapy, and a 75% remission rate in state hospital patients, where accompanying psychotherapy was not utilized to such an extensive degree.

The value of metrazol convulsive therapy in the treatment of the depressive psychoses has been generally accepted in articles appearing in the literature within the past few months; Appel and Flaherty (7), Robinson (150), Wilson (194), Hackfield and Halvorsen (74) and others have all considered metrazol convulsive therapy to have a definite place in the treatment of the depressive psychoses.

The treatment as used by Meduna, is generally given in the morning when the patients stomach is empty. The dose is the smallest amount of a 10% solution of the drug which when injected intravenously as rapidly as possible will produce a typical convulsive seizure. The first dose is generally two to five cubic centimeters of the solution. When the convulsive dose for the individual patient is

determined, it can be used for subsequent treatments until no further reaction is produced. In such cases the treatment can be repeated within a few minutes according to Low (114) increasing the dosage by one cubic centimeter. Treatments are generally given every other day (three times a week) until the patient shows a remission or maximum improvement is obtained.

The typical episode of the convulsive attack is characteristic, within two to five seconds after the intravenous administration of metrazol the aura begins, initiated by a cough or inspiratory cry, uneasy rolling of the head, blinking, etc. This is followed in a few seconds by intense flushing of the face and neck. A few seconds later, the stage of "flight" or the "precipitating" phase, characterized by clonic convulsive movements of the face, shoulders and arms begins; this is followed in about fifteen seconds by a tonic phase introduced by a "tonic yawn", which can be taken advantage of by the operator to insert a mouth gag to prevent injury to the lips or tongue. The head is retracted and the back arched. The wrists and legs are contracted in extension and the extremities may assume various postures. The tonic phase lasts five to thirty seconds and is followed by the clonic phase which begins in the fingers and then spreads to involve the entire body. These movements are rapid at first and gradually become less frequent, ceasing in

about twenty five seconds. Coincident with the tonic phase, apnoea begins and lasts from then until the end of the last clonic phase--about forty to fifty seconds in all, with a progressive increase in cyanosis. Within a few more seconds the patient resumes breathing and the cyanosis fades. The entire spasm is over in about sixty to seventy seconds but brief after-twitches may occur within ten to twenty seconds, sometimes within a minute or two after cessation of the paroxysm. (Low) (114) After the convulsion, patients frequently fall asleep for a few minutes, or in some cases when patients have been in an excited state previous to treatment, for several hours. Some patients undergo a period of confusion for a few hours after awakening, but usually patients remember only the injection and the feeling of anxiety, and have amnesia for the rest of the seizure.

During the confused period Robinson suggests the use of suggestive therapy, and in the interim between shocks general psychotherapy is vitally important. (150)

There are few contraindications to the therapy, however, great care must be used in the presence of malnutrition, organic heart disease, arteriosclerosis, acute febrile conditions, and somatic disease.

On the surface the procedure seems so simple that it could easily be given in the home or even in the office. The general concensus of opinion among the men now using

such therapy is that this is a distinct mistake and that these treatments should never be given except in a psychiatric hospital, a trained team of operators being necessary to prevent minor complications such as cuts and bruises, dislocations of the jaw, and injury to the tongue and lips, which are inexcusable, and to lessen the incidence of the more severe complications of which much has been written.

Robinson (150) states that fractures and dislocations do occur but that they are relatively rare, and deaths as a result of such therapy have been reported, however they are extremely rare. Bennett (14) in 1940 states that fractures of the spine and extremities have been reported by Palatin, and Freedman and Harris following convulsive therapy, and numerous other authors have recorded the incidence of such complications in their cases, some feeling that incidence of fractures was high enough to warrant cessation of its use in the treatment of mental disease entirely.

In order to avoid the complication of fractures of the vertebral bodies and the extremities during the use of metrazol convulsive therapy, numerous modifications of its use as first advocated by Meduna have been made. The maintenance of an attitude of hyper-extension of the spine, and limitation to a certain degree of the convulsive movements, has seemed to limit the occurrence of these compli-



cations somewhat. Hackfield and Halvorsen (74) recommend the use of high doses of metrazol in place of the customary dosage of just the amount needed to produce the convulsion. They feel that by so doing the subconvulsive reactions are eliminated, fractures which occur during the initial clonic phase are eliminated, and following the convulsion the use of three to four grains of sodium amytal intravenously, produces an immediate sleep resulting in complete amnesia of the reaction and elimination of the post convulsive apprehensive phase, so commonly seen in the disturbed patient.

Most recently, the report of Bennett (14) of the use of an aqueous or alcoholic extract of curare given parentally in physiological dosage sufficient to produce a flaccid generalized motor paresis, seems the most direct step yet proposed for the prevention of complicating fractures occurring during the course of metrazol convulsive therapy. He had previously experimented with the use of spinal anesthesia as<sup>a</sup> manner of preventing such complications, finding however that the procedure was not warranted. With the use of curare to produce a flaccid generalized motor paresis initially, the convulsive dosage of metrazol is given, and he feels that an adequate protection from the traumatic complications of convulsive shock therapy is afforded the patient. So far he has found no dangers or drawbacks from the use of curare in conjunction with metrazol convulsive therapy. The

therapeutic effects of convulsive shock therapy are maintained, and its disadvantages are eliminated. He concludes however that further experimentation is necessary before this method of metrazol convulsive therapy in conjunction with curare can be recommended for general use.

Robinson (150) emphasizes the fact that due to the necessity of skilled psychotherapy, this procedure of metrazol convulsive therapy should not be used indiscriminately. He considers that great harm may be done by a chance remark at the wrong time. A poor outcome may result if proper psychotherapy is not applied at the right times during the course of treatment. The physician must be skilled and must understand the principles of the basic sciences of psychiatry, psychobiology and psychopathology. "Without this he should no more attempt this procedure than he would attempt an appendectomy without a basic knowledge of anatomy and pathology".

#### SUMMARY:

At the outset of this paper, it was the writer's intentions to include as additional matter, a series of case histories of patients, of the type described herein, whom it was his privilege to see respond remarkably to metrazol convulsive therapy. At this point however it becomes evident that nothing could be added to the sum total of this paper

by such an inclusion except longevity and bulkiness, of which it is evident there is already a great sufficiency.

In the care of the depressed patient, besides the general attention to protection and metabolic care, there are offered a number of special forms of therapy. In selecting one from the many different types on the basis of its efficacy in treatment of depression, it is recognized that here as in diagnosis and prognosis, the individual psycho-biological characteristics of any single case must be taken into consideration.

At the present the most promising form of treatment for the depressions, seems to be metrazol convulsive therapy in adjunct with reassurance, suggestion, and psychotherapy, its use being the most suitable and efficient for a wide variety of conditions. Its efficacy in the long run cannot be judged at the present time, however, its effects in shortening a period of disability for the patient, regardless of the length of the period of improvement, represents a real value to that patient. An entirely new outlook on psychiatric therapy has been developed by the public and general hospitals, as the result of the introduction of this form of therapy, and it seems that the few risks present in its use, are of minor importance when one considers the beneficial results to the patient and

his family. There is the suggestion however in the trend of recent literature regarding metrazol convulsive therapy, that the risk of the treatment is to be greatly lessened by modifications in the present day routine of convulsive therapy.

In those cases of depression resistant to metrazol convulsive therapy, it would appear justifiable to the writer to resort to the prefrontal lobotomy of Moniz, using the technique of Lyerly. The risk is great, but regardless of this, it would seem better to chance an attempt at a cure, than to have the rut formation, and harping hypochondriasis so characteristic of these patients. The part benzedrine sulphate plays in the depressions remains uncertain, as is also true in the case of hemataroporphyrin, the estrogen substitution therapy, and the other special forms of therapy mentioned. Even the effects of convulsive therapy in the depressions may be found after more careful scrutiny to have less favorable and beneficial results than now attributed to it. Until such a time as it shall prove unworthy of the faith and hopes placed in it by modern day psychiatry, or until such a time as some new, unheard of mode of treatment is brought out, it shall continue to be the treatment of choice in combination with psychotherapy, for the thym-ergasic depressions.

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