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The Funkenstein Test of Autonomic Function

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INTRODUCTION

As might be expected in any relatively new field of investigation, the area of psychosomatic medicine suffers from a lack of basic research . . . from a scarcity of general established relationships between emotional reactivity and physiology. The investigations of Daniel Funkenstein and his co-workers at Harvard Medical School offer one such relationship. This paper is intended neither as a critical review of the literature nor as an evaluation of this research, but rather as a general explanation of the Funkenstein test and some of its implications.

BIOLOGICAL CONSIDERATIONS

The role of the autonomic nervous system (A.N.S.) is an important one in the genesis of psychosomatic disorders; in fact, some psychiatrists would restrict the use of the term "psychosomatic" to disorders mediated largely by the A.N.S. (e.g. essential hypertension, migraine, etc.). In this sense "psychosomatic" would not include the hysterical disorders functioning through the central nervous system, as described by Freud, or the "diseases of adaption" mediated through the pituitary-adrenal axis, as described by Selye. It is the role of the autonomic system, and the sympathetic division in particular, that is to be considered here.

In contrast to the sympathetic autonomic system, the parasympathetic division has long been considered as an executor of "repose and repair", replenishing rather than expending body energy, with particular emphasis on the intake and absorbtion of food through the gastro-intestinal tract. With its anabolic type of function, and lack of preparation for external action, the parasympathetic system at a physiological level is somewhat analagous to "passive-dependency" at a psychological level.

The sympathetic division, on the other hand, comes into increased activity in situations demanding either attack or active flight. Cannon originally conceived of the sympathetic system as an executor of both *fight* and *flight*, with little distinction between these two reactions as far as autonomic reactivity is concerned. In keeping with the discovery by Tuller and Thinter in 1948 of two sympathetic mediators, adrenalin and noradrenalin, these two functions have become separated in current thinking. Some reactions call forth a predominantly adrenalin response, whereas different reactions call forth a predominantly noradrenalin reaction.

The differential actions of these two hormones on the maintenance of blood pressure is of some interest in this regard. Noradrenalin has a relatively specific action, namely peripheral arteriolar vasoconstriction. Adrenalin, on the other hand, shows widespread effects on the body, only one of which is a direct action on the heart producing increased cardiac output. Thus noradrenalin increases blood pressure by increasing the total peripheral resistance, whereas adrenalin accomplishes the same effect by increasing cardiac output. The adrenal medulla is capable of secreting both substances, each apparently controlled by a different area of the posterior hypothalamus.

PSYCHOLOGICAL CONSIDERATIONS

In contrast to Freud's early emphasis on sexual or erotic feelings as determinants

of behavour, contemporary psychiatry has placed equal or even greater emphasis on the role of hostility in psychopathology. Along with the concepts of anxiety and erotic emotions, hostility forms one of the main building blocks in the formulation of a clinical picture of personality.

Hostility need not be obviously manifest to be considered as an inner mainspring of behaviour; hostility may not be apparent in depressed conditions, and may actually be conspicuous by its absence. In such conditions it is postulated that hostility is *internalized,* that is, the person has destructive devaluative wishes or impulses against himself rather than against others. If the depressed person expressed these feelings about others rather than himself, we would say he was angry at them. The concept of *hostility internalization* has become a crucial one.

Any individual, then, may be considered as falling somewhere along a continuum or spectrum ranging from marked internalization of anger through mixed reactions to marked outwardly-directed aggression. The former group tends to react to stress with depression and fear (similar to Canon's *flight* reaction), the latter group with open hostility (similar to Cannon's *fight* reaction). A person may be located along this continuum by various means, including clinical observation, recorded reaction during experimental stress situations, or by various projective psychological techniques.

THE FUNKENSTEIN TEST

The Funkenstein test purports to measure the type of sympathetic reactivity to a physiological stress. The physiological stress consists of the subcutaneous injection of ten mg. of Mecholyl Chloride, a parasympathomimetic drug producing peripheral vasodilation and consequent drop in blood pressure. Sympathetic reactivity to restore homeostasis is measured in terms of the speed at which the blood pressure returns to a pre-established baseline for the particular patient.

The original test as described by Funkenstein consisted not only of a Mecholyl reaction, but also a measurement of blood pressure reaction to an adrenalin injection, and was recorded in terms of seven possible types of blood pressure response. For purposes of simplification, only the Mecholyl portion of the test will be considered, and the responses will be grouped into two, rather than seven, types of reaction. The "A" type reaction will refer to the original Funkenstein groups I- IV, and the "B" type reaction to groups V - VII.

In an "A" type Mecholyl reaction the systolic blood pressure recovers rapidly, returning to the pre-injection level within eight to ten minutes of the Mecholyl injection. In a "B" reaction the hypotensive effects of Mecholyl are prolonged, the systolic blood pressure failing to return to pre-injection levels within an observation period of twenty-five minutes. The "A" reaction could thus be considered as a "rapid rebound" response, and the "B" reaction as a "prolonged hypotensive" response.

Funkenstein has observed that the "A" reaction is markedly similar to a Mecholyl reaction during a continuous infusion of nor-adrenalin, whereas a "B" reaction is similar to that during an infusion of adrenalin. Further, urinary catechol amine assays suggest that "A" reactors have increased noradrenalin levels during stress, whereas "B" reactors have increased adrenalin levels. It has been concluded that the "rapid rebound" reaction is due to a predominantly *horadrenalin-like* secretion, and the "prolonged hypotensive" reaction is due to a predominantly *adrenalin-like* secretion. Noradrenalin more successfully combats the hypotensive effect of Mecholyl through its peripheral vaso-constrictor effect, whereas adrenalin has little influence on this reaction, its effects being mainly to increase cardiac output rather

than constrict the peripheral arterioles. With the peripheral vascular system still "wide open", increased blood flow would have less effect on blood pressure.

A relationship between the type of Mecholyl reaction and response to certain types of treatment has been demonstrated. In psychiatric practice, electroshock therapy (ECT) is considered to be most valuable in the treatment of depressive conditions. In an early study on ECT prognosis, using the Funkenstein test, it was found that three of 21 group "A" patients improved with ECT while 39 of 42 group "B" patients improved with ECT. In another study, 63 patients were given the Mecholyl test, and without knowledge of the test results, psychiatrists judged the predominating emotion of the patients over a period ranging from days to months. Almost all patients judged to be generally angry at other people and paranoidal were group "A" Mecholyl type, and almost all those usually depressed or frightened were group "B". These and other results support the contentions that:

1) *Group "A" (rapid rebound) Mecholyl reactions are associated with*:
   (a) Sympathetic reactivity to stress that favours noradrenalin secretion.
   (b) A tendency to openly express hostility (similar to Cannon's *fight* reaction).
   (c) A relatively poorer prognosis for ECT therapy.

2) *Group "B" (prolonged hypotensive) Mecholyl reactions are associated with*:
   (a) Sympathetic reactivity to stress that favours adrenalin secretion
   (b) A tendency to "internalize" hostility and become depressed (similar to Cannon's *flight* reaction).
   (c) A relatively better prognosis for ECT therapy.

The relationship with ECT prognosis may be simply a reflection of the fact that people who turn hostility inwards (e.g. depressed patients) tend to benefit the most from this type of treatment.

One rather interesting application of these relationships was observed by a group in the United States investigating the resistance of air force personnel to gravitational pull in a centrifuge ("G-stress"). Blacking-out under G-stress is apparently due to cerebral hypotension producing loss of consciousness through hypoxia. It was predicted that the effect of noradrenalin, through its peripheral vasoconstrictor action, would be greater than that of adrenalin in combating this reaction. Consequently, the group was rated for "direction of hostility" through projective psychological testing (in this case, with the "Thematic Apperception Test"), and then subjected to G-stress. It was predicted that the group directing hostility outward would have a greater G-stress tolerance than the group tending to direct hostility inwards. Significant results were obtained in the predicted direction.

In psychiatric settings, the Funkenstein test has been used with varying degrees of success in predicting the outcome of not only ECT, but also insulin coma and other therapies. In view of conflicting results in the literature, it must be concluded that the future role of the test as a prognostic evaluator is yet to be determined.

The chief value of this reseach lies in its contribution to the undertsanding of the autonomic nervous system. It emphasizes that the sympathetic division of the autonomic nervous system may be itself separated into two components, namely a noradrenalin and an adrenalin system. Either one of these secretions may predominate at any one time, this factor likely being largely determined by the emotional reactivity of the individual.

SUMMARY

Various types of blood pressure reactions to a Mecholyl injection (inducing hypo-

tension) have been related to adrenal reactivity, the method of handling hostility, and to prognosis for electroconvulsive therapy. A rapid return of blood pressure to the pre-injection level is thought to represent predominantly noradrenalin activity, and is related to outward expression of anger and to a poorer ECT prognosis. A prolonged hypotensive reaction is thought to represent predominantly adrenalin activity, and is related to internalization of hostility (depression), and to a better ECT prognosis. The *type* of sympathetic reactivity (noradrenalin versus adrenalin) may thus be largely determined by the person's method of handling hostility.

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Childhood Schizophrenia

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INTRODUCTION

In the field of psychiatry, childhood schizophrenia is a relatively new mental disorder. The condition first appears in the American literature around thirty years ago. Bender, Despert, Kanner, Mahler and Rank are considered the pioneers in this field, and I will refer to some of their concepts in this article. With increasing emphasis both by the medical profession and the public on mental retardation and disorders in children, it is becoming more imperative that the general practioner become more acquainted with the various mental disorders seen in children. It was interesting to see that just last month, a leading American Women's magazine published an article dealing with a case of childhood schizophrenia and its effect on the family.

Childhood schizophrenia being a relatively new disorder in the field of psychiatry, the literature is full of conflicting theories as to etiology, incidence, clinical picture et cetera. I will try to present this disease in a rather skeletal form, leaving out many of the involved theory and frills. This article will not include the syndrome of Early Infantile Autism described by Kanner in 1943, or Symbiotic Infantile Psychosis described by Margaret Mohler, which have their own distinctive points, but are very closely related to Childhood Schizophrenia.

DEFINITION

There are almost as many definitions for this disease as there are writers. Those who believe that heredity is the major etiological factor in the development of childhood schizophrenia, probably would accept Lauretta Bender's definition which states "Childhood schizophrenia is a developmental lag of the biological processes from which subsequent behavior evolves maturation at an embryological level characterized by embryonic plasticity, leading to anxiety, and secondarily to neurotic defense mechanisms".

Those who believe that environment is the important etiological factor, would prefer a definition which states that the disease is a reaction to abnormal family and parental influences. Since both heredity and environment are important causative factors, a definiton including both would be more satisfactory.

ETIOLOGY

Like most mental diseases, the etiology of childhood schizophrenia is unknown. Much has been written but no factor or group of factors can be singled out as the cause.

Lauretta Bender, a strong supporter of the heredity concept states "No child can develop schizophrenia unless predisposed by heredity, the psychosis is precipitated by a physiological crisis, the pattern of the psychosis and its defense mechanisms are determined by environmental and physchological factors".

Kallmann states that the predisposition to schizophrenia depends on the presence of a specific genetic factor which is probably recessive. He found that with one schizophrenic parent the expectancy of the child was 16.4%, and with two affected parents, 68.4%. The general expectancy rate in the population varies from 0.7% to 2%. W. R. Keeler from the Research Institute at Sick Childrens, Toronto, states that schizophrenia is transmitted by multiple recessive genes but heredity as a factor seldom operates alone, and is nearly always complimented by environment as a causative factor.

Anyone who has looked for a specific causative factor has been doomed to failure. German and Dutch neuropathologists have probed the brain for the answer. Endocrine evidence has been found but a definite correlation has *not* been made.

Statistical studies have shown a greater prevalence of mental illness in families of schizophrenics, but these mental illnesses have included neurotics, alcoholics, and schizoid personalities.

Environment does play an important part in the etiology as it does in most mental disorders. Dr. Leo Kanner in his book "Child Psychiatry" has referred to childhood schizophrenia as a response to refrigerator parents who cannot defrost. Life experiences seem to confuse these children making normal relationships impossible. However, it must be remembered that there are well-documented cases where the parents have been described as well-adjusted and "normal".

In summary, it would seem that these children have a constitutional predisposition and that environmental factors precipitate the schizophrenic process.

INCIDENCE

Accurate figures on a nationwide basis for the disease are difficult to obtain. The age incidence appears to be in the 2-13 year range. Males predominate 3:1 overall, but around the 6 year mark, the sex incidence is equal. In 6,500 mental disorders seen in the Psychiatric Unit in Bellevue Hospital, New York, in the period 1934-51, 625 cases were diagnosed as childhood schizophrenia.

CLINICAL PICTURE

The signs and symptoms of childhood schizophrenia vary markedly from those seen in the adult type. One of the features of this condition is the variation in the behavior of the children. The following signs and symptoms have been reported but by no means are confined to one case:

1. Social Behavior

1. Marked or extreme unresponsiveness to others or they may respond with intense vigor and great and often violent speed.
2. Stupidity at one time and cunning at another.
3. Bizarre behavior with incongruous and purposeless actions.
4. Compulsive or obsessive patterns of behavior.
5. May see anxiety occasionally leading to panic reactions.
6. An apparent absence of all kinds of emotional feeling.
7. Preoccupation with inner imaginary world and inappropriate reaction to external situations.

2. Disturbances of Motility

1. A tendency to rotational movements of the body.
2. A tendency toward body moulding and catatonic attitudes.
3. A general reduction in body tone.

3. Speech

1. Complete absence of speech.
2. Echolalia—the meaningless repetition by a patient of words addressed to him.
3. Fragmented speech.
4. Precocious speech development.
5. The failure to use the proper pronoun in speech with the consistent use of the second or third personal pronoun for the first personal pronoun.

4. Physical Signs and Symptoms

The schizophrenic child may present as:

1. A feeding problem.
2. A toilet training problem.
3. With oral and anal fixation.
4. Pulse and temperature control not adequate.
5. A liable vascular system.
6. An allergic problem.
7. Poor sleep patterns and restlessness.

5. Other Signs and Symptoms

1. The child may have nihilistic tendencies where he will not identify parts of his body as his own—difficulty in body image.
2. Hypochondrial and over-awareness of internal organs and body functions.
3. Difficulties in object identification.
4. Late development of the disease may show psychoneurotic, psychopathic or psychosomatic traits.

PSYCHOLOGICAL EXAMINATION

I. Draw A Man Test

This test frequently shows distortions, some of which may be specific.

1. An inability to define body boundaries
2. Bizarre body structure apart from lack of specific body boundaries.
3. A tendency to demonstrate movement in drawings.

II. Projective Tests

The Rorscharch may help in the diagnosis, but is probably not specific. In general, it resembles the Rorscharch of children with organic brain disease, and reveals intense anxiety.

THE ENVIRONMENT

Although the role of the parents in the etiology of this condition is controversial, case histories have revealed the following:

1. Distant, cold parents who are preoccupied by their own problems.
2. Domineering parents who make continual demands on the child.
3. Over anxious and over-solicitous parents.
4. Parents of high intelligence, with professional and artistic interests.
5. Compulsive, obsessive parents.
6. Hostile parents, with hostility directed to the child.
7. Parents with feelings of guilt, who believe that they are repsonsible for the disease.

TREATMENT

Lauretta Bender insists that therapy aimed to break down neurotic mechanisms and give insight into neurotic dynamics is contraindicated. Dr. Bender feels treatment should be aimed firstly, at the stimulation of maturation, secondly, at the patterning of plasticity, thirdly, at the control or relief of anxiety and finally at the strengthening of defence mechanisms. Treatment of parents, especially in groups, to help them understand their problems. is indicated. Bender and Keeler have used ECT to alleviate secondary symptomatology, the main indication being paralyzing anxiety of acute onset.

Bettelheim's theory of treatment is to provide the child with truly need-satisfying persons who live with the child all day long, every day of the year, in an environment which exercises only minimal pressures. The child needs a mother free of emotional demands to the child, so that he can benefit from mothering without having to respond, or when he does, in his own time and own schizophrenic way.

The McGill University Day Treatment Centre has a more practical programme of therapy. They try to help the family understand the problem they have to live with, to make any possible modifications in the child, and they use the centre to place the children in suitable groups. In handling the child, they observe the following basic precepts:

1. Complete acceptance of the child on the level at which he presents himself.
2. They frequently verbalize what the child is doing to help the child form the concept of himself being a person separate from his environment.
3. The teachers act at times as a mirror for the child.
4. The teachers are continuously on the alert to support any attempt at interaction.
5. Socialization of the child's aggressive behavior.

The separation of child and mother is allowed to occur at the child's pace, which is usually after a relationship between the child and his new environment is established. Mothers are given individual and group psychotherapy; the fathers receive group sessions twice monthly.

Drug therapy is employed in the treatment of this disease. Benadryl, Phenergan, Largactil, Promazine, Trilafon, reduce hyperactivity and aggressiveness. Gravol is of value when body image problems are prominent. Lobotomy may be used on long standing cases who are difficult to control and have a hopeless prognosis. Institutional care is considered when parents can no longer cope with the problems or when school or group facilities are unavailable, or for the child who is excessively disturbed, for his own and family protection. It must be remembered that treatment for all parties concerned is in terms of years, and the rather poor prognosis must be kept in mind. Kanner states the evaluations

PROGNOSIS

The prognosis of cure or rehabilitation of these children is only fair. Bender feels that if the child is diagnosised before puberty, 50% will make a fair to good adjustment. The remaining 50% may continue the schizophrenic process, go on to dementia precox, present as mental defects, or develop some other psychosis.
of prognosis should be based on long range observation covering years and years.

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Mental Retardation

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INTRODUCTION

Of every one hundred children of school age, three are mentally retarded. This means that you as physicians, or as parents, are sure to have to deal with this problem.

DEFINITION

Mental Retardation refers to subaverage general intellectual functioning, which originates during the developmental period, and is associated with impairment in one or more of the following:

1. Maturation
2. Learning
3. Social adjustment.

This definition covers a wide range of problems. The degree of deficiency presents a spectrum from borderline or low normal, through mildly retarded (educable), and moderately retarded (trainable), to severely retarded (custodial).

The causes of mental retardation have reached approximately sixty in number. They are increasing by leaps and bounds as knowledge in this field increases.

CLASSIFICATION

1. *Mental Retardation associated with diseases and conditions due to infection.*
   - (a) Congential prenatal encephalopathy, e.g. rubella
   - (b) Postnatal cerebral encephalopathy.
2. *Mental Retardation associated with diseases and conditions due to Intoxication.*
   - (a) Associated with toxemia of pregnancy
   - (b) Associated with other maternal intoxications
   - (c) Bilirubin encephalopathy
   - (d) Post immunization encephalopathy
   - (e) Other
3. *Mental Retardation associated with diseases and conditions due to Trauma or Physical Agent.*
   - (a) Encephalopathy due to prenatal injury
   - (b) Encephalopathy due to mechanical injury at birth
   - (c) Encephalopathy due to asphyxia at birth
   - (d) Encephalopathy due to postnatal injury
4. *Mental Retardation associated with diseases and conditions due to Disorder of Metabolism, Growth or Nutrition.*
   - (a) Cerebral lipoidosis, infantile
   - (b) Encephalopathy, associated with disorders of lipoid metabolism
   - (c) Phenylketonuria
   - (d) Encephalopathy associated with other disturbances of Protein Metabolism
   - (e) Galactosemia
   - (f) Encephalopathy associated with other disorders of CHO metabolism
   - (g) Arachnodactyly
   - (h) Hypothyroidism
   - (i) Gargoylism
   - (j) Other
5. *Mental Retardation associated with diseases and conditions due to New Growths.*
   - (a) Neurofibromatosis
   - (b) Trigeminal Cerebral Angiomatosis
   - (c) Tuberous sclerosis
   - (d) Other intracranial neoplasms
6. *Mental Retardation associated with diseases and conditions due to Unknown Prenatal Influences.*
   - (a) Cerebral defect, congenital
   - (b) Encephalopathy, associated with primary cranial anomaly
   - (c) Lawrence Moon Biedl Syndrome
   - (d) Mongolism
   - (e) Other
7. *Mental Retardation associated with diseases and conditions due to Unknown or Uncertain Cause with Structural Reaction Manifest.*
   - (a) Associated with diffuse sclerosis of brain
   - (b) Associated with cerebellar degeneration
   - (c) Other
8. *Mental Retardation due to Uncertain or Presumed Psychologic cause with the functional reaction alone manifest.*
   - (a) Cultural-familial retardation
   - (b) Psychogenic mental retardation associated with environmental deprivation
   - (c) Psychogenic mental retardation associated with emotional disturbance
   - (d) Association with psychotic disorder
   - (e) Other

Both organic and emotional factors are causative in producing mental retardation, and they may well augment each other in a single individual.

TREATMENT

Treatment of mentally retarded individuals is best attacked by prevention. This is possible when the causes are such as phenylketonuria. If the infant with this condition is fed a diet free of phenylalanine from birth, damage to the brain does not occur. Kernicterus, mechanical birth injury, asphyxia, galactosemia, and cretinism may be avoided by medical techniques. Retardation due to environmental deprivation or emotional disturbance may hopefully be prevented. I feel that the philosophy of Bowlby Spitz, etc., should be the cornerstone to treatment. "Kind, loving, natural care can allow the child to achieve the emotional development that later allows him to achieve his maximum intellectual function."

Many individuals in the borderline group (IQ 70-90) never come to the notice of the medical profession. If they are socially and emotionally well adjusted, they are able to finish elementary school and to completely support themselves. Those individuals falling into the low borderline and mildly retarded range may attend shools run by the Parents Association, with financial help from the Government. Later, they may be trained to do routine jobs in workshop setting. The severely retarded require cutodial care which, in Ontario, is provided at the Ontario Hospital School at Orillia, Smith's Falls, and Cedar Springs. There are many gaps in the present provision for the retarded - school ends at age 16, workshops do not begin until age 18. Custom has dictated that the upper age limit for entrance into an Ontario Hospital School is 16.

Since Dr. Dymond has become Ontario Minister of Health, a new program to help both mentally retarded children and their parents has been instituted. The Psychiatric Research Institute for Children in Byron is part of this program. There the retardate is assessed by means of the best knowledge available in the psychological, sociological, physical, and emotional fields. Specialists in audiometry, endocrinology, E.N.T., E.E.G., and P.E.G., investigate cases with suspected problems in those fields. The peculiarities of each child are attacked from all sides in order to give as complete a picture as possible. The staff involved in this review work in close conjunction and attempt to arrive at a diagnosis and long term plan to take care of the child throughout its whole life. Psychotherapeutic support is given as freely to parents as to children. These centres are the pipe line to admission to Government Institutions. They serve to channel cases to the various community resources which can help the individual patient the most. While the child is at home, where he can mature emotionally and socially, he returns to the centre every 3 to 6 months. The Institute encourages the parents to return any time for help with problems as they arise. Plans are at present being carried out to fill the gaps in school training situations, with a school located at the Institute. The University of Western Ontario Medical School is working closely with this centre on research problems in hopes of future prevention. Dr. Murray Barr is doing chromosome studies, and the biochemistry department is working on various metabolic problems.

Mental Retardation is a pioneer field. Vistas are opening in terms of research, diagnosis, and treatment.

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Hypnosis in Medicine

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INTRODUCTION

There are many divergent attitudes towards hypnosis. They range from denials that any such phenomenon exists to enthusiastic acceptance. That this subject should be able to provoke such divergent opinions is a strong testimonial to our ignorance about it.

This discussion is directed towards an elementary understanding of what hypnosis is and how it is applicable to medicine. To this end, the definition, history, techniques, mechanism results and applications of hypnosis are briefly discussed.

DEFINITION

Hypnosis may be defined as an altered state of the organism originally and usually produced by a repetition of stimuli in which suggestion is more effective than usual.

HISTORY

Most primitive cultures, be they Greek, Druid, African, or Chinese, contain descriptions of behavior suggestive of the use of hypnosis, though usually the gods gained the credit for the remarkable results. Early doctors used suggestion to effect cures and gained much credit for themselves.

Probably the most famous name associated with hypnosis is that of Mesmer. His theories of animal magnetism postulated the existence of a magnetic force resulting in life itself. He said that he could affect this physical substance and cure its disharmony i.e. disease. It is interesting to note that Mesmer was discredited by an investigating committee of the French Government formed in 1784, because his cures were merely the result of "suggestion".

Braid, Elliotson, Charcot, and Freud were other famous medical men who contributed to our study of hypnosis.

Braid rejected the idea of animal magnetism, and stressed the role of suggestion. He is said by many to be the real father of hypnosis, and he coined the word "hypnosis" from the Greek *hypnos* - sleep.

Elliotson, who was considered a radical, not only championed the use of hypnosis, but discarded knee breeches and silk stockings—the orthodox dress of the time!

Charcot used hypnosis and was known for that amongst other things, whereas Freud might be said to be known for his rejection of hypnosis in favour of psychoanalysis which he thought produced more permanent results.

TECHNIQUES

The technique of hypnosis may be divided into two parts, induction and termination.

Popular belief associates passes of the hands or a peculiar piercing gaze with hypnotic induction. While such procedures may be good showmanship, Braid showed that blind people could be hypnotized and this rigmarole could not be too essential. Most induction now relies mainly on verbal suggestion, often of a monotonous nature. The subject is told in a repetitious fashion to relax, to sleep, and to concentrate on the hypnotist's voice. Suggestions of involuntary movment such as hand raising, or lack of movement such as inability to open the eyes may be inserted to determine the depth of the state. Conditions of quiet and comfort may be more important to some patients. Both individuals and groups may be hypnotized in this fashion.

There are numerous modifications of the technique of induction. The feelings and imaginings of the patient brought out during hypnosis may be incorporated into

subsequent inductions, or the thoughts of the subject on falling asleep at night may be used. This technique involves *feed-back* from the patient.

Fractionation, another technique, involves hypnotizing and awakening the subject over a period of say an hour.

The so-called *instantaneous method* involves pressure on the carotid sinus so that bradycardia is induced; the patient becomes dazed and confused and susceptible to suggestion.

In *waking hypnosis,* the word "relaxation" is substituted for sleep in the induction. The advantage of this for use on a patient who does not want to fall asleep or is afraid of the loss of consciousness of sleep is apparent.

In the hypercritical negativistic person, the *confusional technique* may be used. Many suggestions of a contradictory nature may be given. The subject's arm may be said to be light, then heavy, warm, then cold. As a result of confusion or desperation, the subject finally accepts the suggestions and become hypnotized.

The induction may be *domineering* or *cooperative* with the operator assuming a cold tone of voice, or warm and friendly. Some psychoanalysts think this quite significant and judge before hand whether a person characteristically responds to "paternal" or "maternal" persuasion.

The *disguise procedure* involves taking the subject from sleep into hypnosis and back again.

The *chaperone procedure* is an ingenious method of getting around an unwilling patient when such is thought necessary. The subject is asked to assist in the hypnosis of someone else and thus he unwittingly exposes himself to hypnotic induction.

The induction periods vary in length from a few minutes to three hundred hours (non-consecutive). Eight minutes might be considered average, although this time period depends a good deal on the criteria of depth of the state.

In subsequent induction one quarter of the original time required is a nice round figure.

Dehypnosis is the reversal of induction. It involves telling the patient that he will awaken, be normal and be wide awake. A good deal of repetition may be used. Generally, dehypnosis is not much of a problem.

The sway test may be used to determine the susceptibility to hypnosis. The subject is asked to close his eyes and then told to imagine that he is falling. Some people may actually fall in this test. The degree of sway is related to susceptibility to hypnosis.

Susceptibility to hypnosis is a complicated business, to say the least, but some rather didactic statements seem justified. The personality and sex of the hypnotist seem to have some bearing on susceptibility to hypnosis. The susceptible individual is neither gullible nor submissive, possesses slightly higher intelligence than the non-susceptible subject, tends to be impunitive and to use repressions. It is said that five to twenty percent of people may reach the deepest depth, another five to twenty percent are not susceptible, and sixty to ninety percent can enter light to medium hypnosis.

MECHANISM

Many of the details of how hypnosis works have not yet been worked out. All the theories have many shortcomings, but their rational approach to hypnosis helps to dispel the all too prevalent air of witchcraft associated with this phenomenon.

One of the early theories sprang from the use of hypnosis to treat the mentally ill. It was thought that only emotionally unstable people could be hypnotized. It was said that a mentally ill person was particularly suggestible.

Hypnosis has been likened to sleep. The similarities of the two states are obvious.

Hypnosis, though, does not involve the type of loss of contact with reality inherent in sleep. A person in hypnosis may understand quite well what is happening around him.

Another theory of hypnosis invokes dissociation of the personality to explain the hypnotic state. The subject is said to act as if certain functions and areas of behavior were isolated from the total personality. This theory involves isolation or inhibition of part of the brain, perhaps on a chemical or neurological basis that has not yet been discovered. The deeper the hypnosis, and the more extreme the behavior, the better the isolation. Experiments in which the subject could not fake the results seem to show that such a dissociation is more apparent than real. For example, it was suggested to a hypnotized subject that he would not be able to hear in one ear. He was then fed sound at 500 cycles per second to one ear and 502 cycles per second to the other ear. He reported he heard sounds of a frequency of two per second, indicating that both ears were functional.

Role playing is thought by some to give some explanation. This theory implies that a person in hypnosis acts as he believes a hypnotized person should act. This theory serves to explain the purported reincarnations and effects that are susceptible to voluntary control. In explaining such involuntary things as an infantile Babinski in an adult, or anesthesia during an operation, they are not too convincing. Then again, what of the person who instigates a lawsuit for disability, but under hypnosis loses it. Role taking seems to be a component of all hypnosis but is certainly a superficial explanation.

RESULTS

The presence of hallucinations in hypnosis is an interesting phenomenon. The hallucinations may be of two types, positive and negative. In positive hallucinations, the subject perceives objects as different from their physical reality or he may smell an objectionable old pipe as a rose. In negative hallucinations, the subject fails to perceive an object or a person in the room.

Analgesia and anesthesia may be induced by hypnotic procedures. The hypnotized subject may not respond to pin-pricks or even to major surgery in the usual fashion, that is, by experiencing pain.

Hypermnesia or increased ability to remember is a valuable product of hypnosis. A person with a conversion hysteria may be be able to express hidden material that is causing his symptom. Age regression is a very similar phenomenon that is useful in obtaining repressed material. Usually the regression is incomplete. For example, writing may appear that of a younger person, but the ability to define complex adult words may persist.

Paralysis of muscles may be elicited in hypnosis and is a frequent test of the depth of the state that is obtained. Inability to open the eyes at will is said to indicate light states, while deeper states are associated with paralysis of major muscles so that the subject may be unable to stand on command.

Post-hypnotic suggestions of amnesia for the period of hypnosis is often given. Post-hypnotic suggestion depends on the response of a non-hypnotized subject to suggestions given in hypnosis. Suggestions that a symptom of disease will be removed are an especially dramatic illustration of this aspect of hypnosis. The unwelcome persistence of hallucinated terrors after hypnosis has been terminated is another aspect of post-hypnotic suggestion. Failure to see that post-hypnotic suggestions are innocuous may make a hypnotist dangerous.

APPLICATIONS

One of the earliest applications of hypnosis to medicine was for symptom removal. For example, a patient with persistent hand washing would be given the post-hypnotic suggestion that he would

desist from this compulsive behaviour. Long ago, Freud saw that this symptomatic treatment helped the patient very little in many cases and resulted in little resolution of the underlying pathology, the old symptom being replaced by new ones.

There are cases in which symptomatic treatment may be very useful though. For example, if a patient has so much insomnia that he is tired and upset for interviews, hypnotically induced relaxation can be of benefit. Again such things as loss of appetite or aggressive behaviour that constitutes a nursing problem may be temporarily relieved. A conspicuous twitching of facial muscles might be transformed into a twitching of the fingers—much to the relief of the patient.

One of the most fruitful uses of hypnosis is as a pathway to psychotherapy. Unconscious material may be exposed under hypnosis that could not come out at a conscious level. The expression of this material may allow its discharge, much to the relief of the patient. Perhaps more significant, it gives the therapist some insight into the dynamics of a patient's illness; the insight so gained may be used in subsequent therapy. Combined with a psychoanalytical approach to therapy, this procedure has been termed hypnoanalysis.

The production of an experimental neurosis in patients has been used to illustrate how unconscious fears may manifest themselves in behavioral abnormalities. Some insight into the importance of unconscious material has been produced. For example, a fear of cats may be induced in hypnosis. Then the uneasiness and rationalizations of the patient are observed on being shown a cat. Finally it is explained to the patient in hypnosis how the fear of the cat was brought about.

Hypnosis has not been much used as an anesthetic for there is some slight chance that the patient might awaken in the middle of the operation. The seriousness of this objection makes the use of hypnosis as a sole anesthetic seem unlikely.

In view of the modern trend of obstetrics away from general anesthetics, hypnosis will probably be used more in this field. The simplicity of the procedure in a patient who has been trained for three or four months before birth and the possibility of relief from pain even in light hypnosis make this technique attractive. Hypnosis at worst may serve as a useful adjunct to anesthesia—an approach not yet fully explored. In passing, it might be noted that the Read technique (*Childbirth without Fear*) is thought by some to depend on waking hypnosis.

The distress, depression, and pain of malignant disease seems to be another field in which hypnosis can contribute to relief. It seems only sensible to try hypnosis before neurosurgery, although something may be said for the finality of a destructive procedure.

In dermatology, it has been claimed that hypnosis produces cures and equally violent claims have disputed this. The ingenious suggestion that hypnotically cured skin conditions should be brought back again and cured a second time bears repeating here.

CONCLUSION

With the growing realization of the unity of mind and body manifesting itself in medicine as a psychosomatic approach to disease, hypnosis as a therapy embodying this approach has come to be of more interest. Practically and theoretically, it is making its implications felt in medicine.

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The New Antidepressants

TOM G. E. ING '61

INTRODUCTION

With the advance of medicine and the former great causes of death gradually being brought under control; suicide becomes important as a cause of terminating human life. Great percentages of suicides, in both successful and attempted cases, occur in depressed persons. A tremendous effort has been made by the scientists to find a method of treating depression. The Electroconvulsive Therapy (ECT) is a very effective method of treating depression, but its usage is confined to the hospital only. Because of the ever present risk, many patients and their relatives object to this type of therapy, and the doctors sometimes may hesitate to use ECT in the milder cases of depression. Thus the search for chemotherapy was needed.

DISSCUSSION

Up to 1955, the Central Nervous System stimulants available were picrotoxin, metrazol, strychnine, camphor, nikethamide, and caffeine.[4] These drugs can not stimulate the CNS for a long period of time, because the increased nervous activity is followed by depression, which is proportional in severity to the intensity and the duration of stimulation. The first four drugs mentioned produce central excitation only at the convulsive dose. Nikethamide has an action similar to that of picrotoxin but of much less potency. Caffeine, although a well known CNS stimulant, has no value in the treatment of the emotionally depressed state.

The second group of compounds that excite the CNS is found among the sympathomimetic agents (amphetamine, methamphetamine, and ephedrine), modified antihistamine (phenyltoxamine and G-22355), anticholinergic compounds (atropine and its related compounds), local anesthetics (cocaine and Deaner), and the ganglionic stimulants (nicotine and lobeline.) The detailed pharmacological actions of these drugs can be found in the literature.

The newer CNS stimulants can be divided into two groups:

Group A

Those having an effect on the mild depressions only.

Some of the members in this group are pipradol (meratran), methylphenidate (ritalin), deaner, phenmetrazin (preludin), and other amphetamine compounds. The meratran is capable of improving energy output and minimizing fatigue, but unlike the amphetamine group of drugs, it generally causes a little disturbance of appetite and sleep. Its chief undesirable side effect is the tendency to exacerbate the preexisting anxiety.[3] Therefore, it is contra-indicated, as are the amphetamine compounds and ritalin, in conditions where there are severe tension, agitation and anxiety. Ritalin can also be used in the treatment of the side effects of reserpine therapy, especially depression.[2]

Group B

Those having an effect on severe depressions as well.

Some of the important drugs in this group of CNS stimulants are the amine oxidase inhibitors and imipramine (tofranil), In 1957, H. P. Loomer et al reported iproniazid (marsilid) as a "psychic energizer" in mentally ill patients. This drug causes dangerous jaundice. Therefore other amine oxidase inhibitors were needed: phenelzine (nardil), nialamide (niamid), phenyl isopropyl hydrazide (cavadil), isocarboxazid (marplan). It was found that the nialamide is not as effective as a substitute for iproniazid as the other three drugs are, and that none of these drugs is as good

as iproniazed in all patients. There is no evidence that phenylzine and isocarboxazid can produce toxic hepatitis, but a death from jaundice with phenylisopropyl hydrazide has been reported. The amine oxidase inhibitors can also cause hypotension which may show up as giddiness, swimming feelings in the head, states of temporary vasomotor collapse with marked fall in blood pressure. These side effects may be overcome by lowering the dose. These drugs can be cumulative and the side effects may take days to clear up after their use is terminated.[5] Most amine oxidase inhibitors elevate the serotonin level in the brain and produce the anti-depressive effects. But Biel and al[3] believe that the dominant action of amine oxidase inhibitors seems to be mediated by dopamine and noradrenaline rather than by serotonin. A method of administrating the iproniazid is to start with a dosage of 50 mgm. orally three times a day for one to twelve weeks. Concurrently, give pyridoxine, 50 mgm. orally each day. As improvement is shown, the initial dosage is gradually reduced to the maintenance dose or the drug is stopped completely.[1]

Imipramine (tofranil) is used widely in Europe and America. It is an imiodibenzyl derivative and has a chemical formula somewhat similar to sparine. It also has some characteristics of the phenothiazine tranquillizers: it does not produce psychomotor agitation and has sedative effect in high dose. It potentiates the barbiturates and blocks the parasympathetic synapses. It possesses an atropine-like effect and a weak anesthetic and analgesic effect. It may cause a fall in blood pressure.[7] Voelkel suggests that tofranil is more indicated in overactive and agitated depressed patients because of its mild tranquillizing effects. The amine oxidase inhibitors are more active in apathetic, underactive depressed patients. However, not all psychiatrists agree on his statement. Imipramine is a more expensive drug than the amine oxidase inhibitors and may require a longer time to act. It may need two to three weeks for a satisfactory response to show in a severe endogenous depression. The oral dosage should be started at 75 mgm. per day and increased gradually up to 200 -600 mgm. per day, in divided doses. The same daily dose or tofranil can also be given by intra-muscular injection to those cases where tablets are not suitable. At the end of the treatment, some of the patients will be found not helped by tofranil but will still do well with ECT. Therefore, a good plan is to treat the patient with a more severe depression by a few ECT together with tofranil or one of the amine oxidase inhibitors, and then try to maintain the recovery with these drugs after ECT has been stopped. Some anergic types of schizophrenia can be helped by the amine oxidase inhibitors, but there may be risks of causing a dangerous flare up of acute schizophrenic symptoms with both groups of drugs. The amine oxidase inhibitors and tofranil can also induce states of hypomania in depressed patients. If this happens, then these drugs should be stopped immediately and tranquilizers given instead.[5] The side effects of tofranil are infrequent. It may cause dizziness, nausea, blurred vision, perspiration, dry mouth, constipation, difficulty in initiating micturition, slight fall in blood pressure, tremor, epileptiform seizures, transient eosinophilia, and maybe blood dyscrasias. Some of these side effects are seen only during the onset of the treatment and will disappear when the therapy is discontinued. If the agitation appears, the dosage should be lowered and tranquilizers should be given.[7]

SUMMARY

In summary, ECT is an effective treatment for depressions, but its usage has many limitations. Thus chemotherapy is needed. Before 1955, the available drugs could not stimulate the central nervous system for a long period of time because the increased nervous activity is followed by depression which is proportional in severity to the intensity and duration of

stimulation. The newer central nervous stimulants can be divided into two groups: those that help the mild depression (meratran, ritalin, deaner, and preludin), and those that help the severe depression (amine oxidase inhibitors and tofranil). The first group, in general, have a tendency to exacerbate the pre-existing anxiety. Therefore, they should not be used in conditions where there is severe tension, agitation or anxiety. The second group of stimulants is quite effective in the treatment of severe depression, but at the end of the therapy, some patients may be found not helped by these drugs and still do well with ECT. These drugs have a slower action than ECT; therefore, it is wise to combine the ECT with these drugs in the treatment of more severe depression.

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The Inadequate and Emotionally Immature Personalities

ROGER C. CORRIN, '61

INTRODUCTION

These two mental conditions belong in the group - Personality Disorders. The Psychopathic Personality is the most important in this group. However, the Inadequate Personality and the Emotionally Immature Personality are much more important clinically now than was thought previously.

The typical case that perfectly fits into the form of the diagnosis is rare. This is true of psychiatry in general and the rationale lies in the fact that the criteria for diagnosis are man-made and communication is still one of man's major problems. Notwithstanding this pessimism, an attempt has been made to present a recognizable impression of the inadequate and emotionally immature personalities.

Two definitions will be given in the hope that one's perspective may be broadened, so to speak, to see a little more of the misty horizon.

Personality disorders are found in those cases in which the personality, instead of utilizing symptoms expressed in mental, somatic or emotional terms in its efforts to secure adjustment, makes use of patterns of action or behavior. They are characterized by defects in the development of the personality and pathological trends in its structure. In these personality types, the individual has little or no subjective sense of anxiety and is without the distress often seen in mental, emotional or psychophysiological reactions.

Another author states that personality disorders are largely behavior problems - abnormalities of conduct. Individuals so affected, while they may be neurotic, nevertheless present as the prominent feature of their ailment, difficulties which may be more properly termed maladjustment, temperamental problems, and troubles of a social or economic nature.

PERSONALITY

Exactly what is personality? Let us examine two men's ideas on the subject; not that we will find the answer to the question but rather that a better understanding of the implications, connected to the word 'personality' may be gained.

In Sadler's book, it is stated that personality is the sum of the individual's constitutional, ideational, affective and responsive capacities, not merely charm, culture or urbanity. Personalities differ more in the relatedness of their components than in the components themselves. And personality is unique - and each person is unique each moment of life. It is the sum total of a human being. It's components are:

1. Physical qualities - the physique
2. Intellectual qualities - the intellect
3. Emotional qualities - the temperament
4. Social qualities - the ethical disposition
5. Moral qualities - the character
6. Spiritual qualities - the religious experience (the highest and most idealistc level of self-realization).

Personality, thus, is the organization of these components.

According to Haggard, the basic traits of personality which mark one man from another and set off each as an individual are as fixed and permanent throughout life as are physical peculiarities. Character is a product resulting from the action of the environment upon the personality. The adaptation of the personality, the conditioning of its inherent qualities, thus results in patterns of reaction and modes of behavior, which in time become the character. Character thus formed then guides behavior. Character can be shaped

only within the limits of the inherent qualities of the particular personality. The basic qualities of personality are inborn and unchanging; they are a part of the human constitution. They are the same in any environment, in all environments. But character lies between the personality and the environment and is therefore influenced by both - one unchanging and the other variable to the full extent of human experience. It is the sensation that each man experiences (through his personality - intelligence, ego, temperament, strength of impulse), not the event itself that colors, bends, and blends the perception before it acts on character formation. Each individual experiences the environment only as he alone can experience it; his character is built in the particular environment in which it is placed. The personality retains its individuality, its identifying features, in any environment.

DIAGNOSIS

The diagnosis of personality disorders must rest upon an adequate history and must be derived from a proper study and observation of the maladjusted or neurotic patient. The history usually makes it clear that the dominant complaint is only one of several or even of many. The patient's widespread emotional response is an aid in diagnosing. Even though the patient's physical reactions may be psychogenic in origin, they are real and may cause further anxiety. As to just where the focal point of this general tension may be located is determined by three factors; psychological stimuli, physical predilection and inherited tendencies.

A diagnosis of a personality disorder may be made on the criteria as tabulated below.

1. An associated neurosis may or may not be present.
2. Insight is usually normal.
3. Behavior problems are the chief difficulty.
4. Maladjustment pertains to economic and social situations.
5. There may be partial debasement of ego - even threatened personality disintegration.
6. Behavior may be asocial or unsocial, but only delinquents are openly antisocial.
7. Personality disturbances maintain more or less working contact with reality, but often exhibit a tendency to escape from difficult situations.
8. The history is the chief source of diagnostic data for constitutional inadequacy.
9. Exclusion of other categories.

BEHAVIOR PROBLEMS FROM INFANCY TO ADULTHOOD

Abnormal behavior is demonstrated in infants, children and youths who later become personality disorders. However, it must be realized that the behavior is not pathognomonic of personality disorders nor that such behavior inevitably foreshadows mental illness.

The feelings connected with elimination and the treatment the child receives in connection with toilet training and constipation appear particularly important for self-regulation and control. The triad of traits - parsimony, pedantry and petulance - were consistently shown in the course of personal histories by Freud. It appears that those who exhibit the more severe anal symptoms are likely to continue to be personality problems. The basic disturbance underlying unusually strong or protracted resistance consists of a child's failure of adaptation to his environment due to insecurity and anxiety.

Throughout his life, the psychopathic child manifests the reactions that are characteristic of his personality - egocentricity, incapacity to comprehend his relation to reality and incapacity to undergo frustration. But psycopathic behavior must not be confused with the psychopathic personality. There

are various reasons why children act in perverse ways (lying, stealing) but not often is it because they are real psychopaths.

Although it is true that all children are selfish, some of them combine an unusual degree of selfishness with hate and aggression, and on this account are said to be psychopathic; but careful study of these cases usually shows that the conditions surrounding them in infancy and childhood have been almost unbearable. Such children should be placed under the care of a psychiatrist.

Emotional disturbances and incipient personality disorders in the pre-school child are frequently ushered in by such behavior as persistent bedwetting, hysterical vomiting, sleepwalking and minor nervous manifestations such as tics - blinking, grimacing and so on. Psychiatrically these children may be diagnosed as an asthenoid type of personality which is characterize by the child who has the following cardinal symptoms; fatigue, 'extra' phobias, compulsions, inadequacy (troubled unduly) and mild depression. Usually they are very sensitive, highly suggestible and they dread competition.

In older children, definite mood swings and other hysterical exhibitions may appear, as well as out-and-out delinquent behavior. The delinquent personality in general is characterized by immaturity, egocentricity and inability to establish emotional relationship with others, primarily because of lack of ability to identify, because of actual hostility.

In the adolescent, these personality disorders may be ushered in by sudden changes in social and study behavior. The adolescent may become neurotic eventually or may develop an inadequacy complex.

In this complex, competition is a great threat and the person is a poor loser. He is continually seeking some avenue of escape in every situation in which his deficiencies appear. The basis of these feelings of inadequacy in youths and of the inferiority complex in adolescent and adult life is the early sense of infantile helplessness and insecurity in the presence of adults on the one hand, and in that of the vast and cruel world of reality, on the other. And this inherent feeling of inadequacy is often developed to the stage of inferiority as the result of disappointments, failures, unfortunate training maladjustments, and certain minor defects of physique. A few individuals compensate for their inadequacies by developing a superiority complex.

CLASSIFICATION OF PERSONALITY DISORDERS

1. Sociopathic Personality Disturbances:

This category includes the personality disorders formerly included under the term psychopathic personality'. its presenting manifestations are usually either those of social maladjustments or of deviations of sexual impulse.

II. Disturbances of Personality Pattern:

This group includes individuals in whom the personality structure shows a fixed, lifelong, seemingly inherent pattern. Individuals with such patterns lack the flexibility of personality necessary for maximum social adjustment.

1. Inadequate Personality
2. Schizoid Personality
3. Cyclothymic Personality
4. Paranoid Personality

III. Disturbances of Personality Traits:

This category is characterized by inability to retain emotional equilibrium and independence. There seems to be a disturbance in the development of the emotional component of the personality.

1. *Emotionally Unstable Personality*
2. *Passive-Aggressive Personality*
   a. Passive-Dependent Type
   b. Passive-Aggressive Type
   c. Aggressive Type.

3. *Compulsive Personality.*

In this personality the superego functions are severe. This type of person is punctilious, rigid, fastidious, formal and meticulous. They lack the normal capacity for relaxation.

INADEQUATE PERSONALITY

This type of personality is more common in society than is generally realized. These inadequate ineffective passive types with childish emotional make-up go through life showing a minimum of symptoms and rarely become involved in serious social difficulties. They are the failures of the family. They fail somewhere in high school and are rarely able to make college due to lack of concentration and continuity of effort. They are mild-mannered and friendly and mix socially with very little affection or responsibility. They are not able to hold any jobs requiring continuity of effort. They are the street-corner and pool-room roustabouts, the chronic alcoholics, the narcotic addicts, the pimps, the pan handlers, the hoboes and the petty thieves. They are weak-willed and tire easily, rarely working for any length of time on one job. They lack ambition and live for the pleasure of the moment. These ne'er-do-wells have no sense of responsibility to themselves, their family or society. While they may have a degree of sentimentality, and are able to quote a few lines of poetry and passages from Scripture, they have no deep anchoring cultural values or sense of duty. They are ineffectual and unreliable in all aspects of their lives and are of little value to society.

Constitutional Inadequacy will be considered as a variant of the Inadequate Personality and will be discussed here because it best fits in this category. The outstanding defect of the constitutional inadequates is their social and economic insufficiency. They are not equipped by nature to meet the stiff competition of modern living. As they grow up and are faced with the problems of life, they make an honest effort to succeed but they just 'can't take it'. They present with a history of successive break-downs with more or less complete recovery. They are always the same and never get well for the simple reason that they were born the way they are and therefore are incurable. They have never had six months of good health since reaching adulthood.

EMOTIONAL IMMATURITY

To be considered in this group are the emotionally unstable personality and the passive-aggressive personality. By immaturity is meant a failure to develope in various ways, aside from measurable biological inferiorities. Specifically, inability to restrain present impulses to pleasurable activity in the face of imminent penalty or in favor of long-time goals, inadequate control of emotional reactions and lack of poise and balance commensurating with age and position are some of the ways in which immaturity is shown.

Growing up is too painful for some of our self-centered and self-seeking fellow mortals. The candidates of neuroticism most often begin by calling 'time out'. They succumb to the juvenile tendency to dream, drift, shirk and eventually quit. We are all inclined to reminisce and say to ourselves, "After all, I was most happy when I was a child, when my parents watched over me and provided everything that heart could wish, those were the happy days!" But reasons one's subconscious mind, "there are hospitals, sanitoriums and health resorts where one can be lovingly cared for if one only gets good and sick".

Real stalwart grownups refuse to look at life in a childish fashion. Courageous men and women view life as a great adventure. Self education and mental training ought early to lead human beings to that place of power and moral supremacy which would enable them to suspend sentiment and impulse, to control the emotional motives, for a sufficient length

of time to allow their mental operations to be calmly reviewed by judgment and soberly passed upon by reason.

A few of the 'earmarks' of emotional immaturity are listed below:

1. Men who can love a woman for only a little while.
2. Young persons or adults who are inordinately self-conscious when with other people.
3. Men who are always boasting of masculine superiority and who are intolerant of women.
4. Persons, exclusive of the medical profession, who indelicately inject sex into their conversations.
5. Misunderstood husbands and wives.
6. Those who lose control, 'blow up', or throw a fit'.
7. All persons who are impatient over any delay in the gratification of their wants and who are unwilling to wait for the natural harvest of their commonplace seed sowing.

The *Emotionally Unstable Personality* demonstrates explosive intensity of emotions in reaction to relatively slight external stimuli. Between outbursts this type of person is usually outgoing, friendly, happy and likeable. In his relations to other persons however, he is constantly subject to fluctuating emotional attitudes because of strong and poorly controlled hostility, guilt and anxiety. Emotional tension usually is at a high pitch and may unexpectedly burst out in uncontrolled anger or disproportionate emotional display. In some, the excitability may be manifested in outbursts of despair, sulky irritability or obstinate inaccessibility. Sometimes they attempt suicide in response to frustration. Jealousy and quarrels with the opposite sex are common. Outbursts of the excitable are reactions characterized by fluctuating emotional attitudes, unstable and explosive feelings and undependable judgement, are to be regarded as expressions of immaturity of personality.

The *Passive-Agressive Personality* is basically an immaturity reaction in which the failure to attain a mature emotional development of the personality is manifested in one of three ways.

In the *Passive-Dependant* type, there is a frank expression of an absence of mature self confidence and self reliance. This type of person is over-whelmed by feelings of helplessness and indecision. He clings to others as a dependant child to a supporting parent and requires approval and assurance. Anxiety manifestations may be present. They shun overt expression of aggression and withdraw from any situation to arouse hostility. They are passive, timid and fearful but have an underlying hostility covered by this rigid shell.

The *Passve-Aggressive* type of personality contains considerable elements of aggression, doubtlessly largely defensive in origin but it is expressed by passive measures such as sullenness, stubborness, procrastination, inefficiency and passive obstructions. They usually work poorly with others and may have a demoralizing effect on the group. Some have been fearful of, or have shown a covert hostility to their fathers who often have been dominant, rigid, unapproachable and difficult to please.

In the *Aggressive* type, the outstanding manifestation is a persistent reaction to frustration, with such immature measures as irritability, temper tantrums and even destructive behavior. Many are hostile, provocative, antagonistic, competitive and ambitious. They manifest the 'chip-on-the-shoulder' attitude and demand special attention and assume unwarranted authority. They may go on to grandiose fantasies. Early in life they were openly hostile to their fathers and below the surface a deep dependency can be discovered. Aggressiveness in this type is a reaction formation in origin.

THERAPY

In the adult, very little can be done to alter the behavior of a personality dis-

order. The most that can be done is to alter the environment as much as possible to minimize the opportunity to provoke such behavior and education of others as to the nature of the illness and the expectations of the patient.

In the child, more definite therapy is available in psychotherapy. Family collaboration and community facilities are of benefit. Play methods offer great curative possibilities by giving 'vent' to the child's emotions, making it possible to relate himself to the therapist and to his life situation, thus generally helping him to gain insight and giving him a chance to reduce a hither-to misdirected pattern tendency.

CONCLUSION

The importance of the Inadequate Personality and the Emotionally Immature Personality is that they are personally disorders and thus not amendable to treatment and that they colour many of the common man's personalities. There is hope, however, of helping these people if they can be diagnosed before adulthood and given psychotherapy. Then, and then only, can these people contribute in a positive sense to society.

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The Psychopathic Personality

JOHN G. READ, '61

INTRODUCTION

"In English speaking countries, the term psychopath is often very loosely used. It has been said that the term is virtually insusceptible to definition, yet it is claimed that every experienced psychiatrist can recognize a psychopath when he sees one . . . Unfortunately, misuse of the term, due to vagueness and confusion about the constitution of psychopathic personality, is widespread. Thus we hear that 'psychopathy' is a ragbag into which those cases can conveniently be dropped which do not seem clearly to belong elsewhere . . . Such confusion of thought is dangerous and can only bring psychiatry into disrespect."*

One becomes impressed early in gathering material for this topic by the vagueness, the controversy, and the lack of real knowledge about the psychopath that exists. It becomes impossible to discuss all the aspects of the psychopathic personality fully. Even if this were done, the material presented would find much criticism for sure, if it were presented as dogma, because of the attending controversy of the subject.

Thus, this article will attempt only to give one a general grasp of the concepts of the psychopathic personality, to interest one in the intriguing possibilities this personality presents for further investigation, and to stress the wide importance of this group of people, which is often not done in standard psychiatry texts.

*Kurt Schneider.

HISTORY

The psychopathic personality rears its presence in many of the great personages of history. Their study is interesting and even amusing at times, but does not warrant further elaboration here.

In 1835, J. C. Pritchard, a Bristol physician, wrote the first known account of the psychopath under the title of *'Moral Insanity and Moral Imbecility'*. In 1885 Koch introduced the term psychopathic inferiority and brought hysterical and obsessive states into his concept. This was further elaborated by Kraeplin. In the past century, Healy, Kahn, and Partridge in America, and Birnbaum in Germany have emphasized the socio-aspects, and the term sociopath originated.

The present definition of psychopathic disorders in the new Mental Health Bill (1958) of the United Kingdom is, "The psychopathic disorder is a persistant disorder of personality which results in abnormally aggressive or seriously irresponsible conduct on the part of the patient, and requires, or is susceptible to medical treatment."

CONCEPT OF THE PSYCHOPATHIC PERSONALITY

The unusualness of attitude that may often be felt about the psychopathic personality is well demonstrated in the summary that has been seen in Psychiatric Conference reports many a time, "Summary - 1. No nervous or mental disease. 2. Psychopathic personality." To some, this sounds paradoxical, to others, logical as they assume the psychopath to have a moral illness. This leads to disagreements along the veins of whether there is moral illness, whether moral is mental illness, and further related disagreements ensue. Thus it is obvious that there is far more than one concept of psychopathic personality.

Kraeplin's concept was essentially biological; undeveloped stages of a psychosis or distorted development due to germinal damage. Birnbaum's concept was that the psychopath came from abnormal hereditary dispositions and shows deviations in the spheres of instinct, emotion, and will. Koch and Gruhle even included feeblemindedness and toxic states as psychopathic in nature. Schnieder's book, *Psychopathic*

Personalities discusses many of these concepts in detail.

Generally, the modern meaning of psychopath seems to have become restricted; leaving out all psychoses, neuroses, mental defects, and organic disturbances (although these can have superimposed psychopathic personalities). Although no concept of the psychopath as such has been finalized, it is important to realize one concept about the psychopath: The qualities of the psychopath become manifest only when he is connected into the circuits of full social life.

CLASSIFICATION

Certain men (such as Schoeder, Liebold, Heinze) feel that classification of the psychopath is at present a very subjective procedure, and that analysis of each individual case is a more fruitful procedure. Birnbaum classifies according to the emotional characteristics that psychopaths have in common. Klager tries to construct a single psychopathic type. Schneider presents several Systemic classifications in his book, *Psychopathic Personalities,* all of which are to varying degrees hard to comprehend, unconvincing, clash with clinical data, and seem too abstract and academic for present discussion.

Following, Schneider presents a Nonsystemic classification of psychopathic personality types. These types should not be used as a diagnosis. That is, this classification indicates, it does not label. The types described are Hyperthymic, Depressive, Insecure, Fanatic, Attention-seeking, Labile, Explosive, Affectionless, Weak-willed, and Asthenic. But personality is so complex and so rich that any one characteristic is scarcely likely to represent the whole person.

All the terms in the *Standard Nomenclature* once listed under psychopathic personalities, are now listed under Personality Disorders. This is presented not necessarily because it is the best classification, but simply because it is the present Standard Nomenclature.

Personality Disorders

Personality Pattern Disturbance—
- Inadequate Personality
- Schizoid Personality
- Cyclothymic Personality
- Paranoid Personality

Personality Trait Disturbance—
- Emotionally Unstable Personality
- Passive-Aggressive Personality
- Compulsive Personality
- Other Personality Trait Disturbances

Sociopathic Personality Disturbance—
- Antisocial Reaction
- Dyssocial Reaction
- Sexual Deviation
- Addiction - alcoholism
  - drugs

Special Symptom Reaction—
- Learning Disturbance
- Speech Disturbance
- Enuresis
- Somnambulism
- Other

Transient Situational Personality Disturbances

Gross Stress Reaction
Adult Situational Reaction
Adjustment Reaction of Childhood—
- Habit Disturbance
- Conduct Disturbance
- Neurotic Traits

Adjustment Reaction of Adolescence
Adjustment Reaction of Late Life.

This calssification is the target of much criticism, and is confusing in many respects, especially in its inclusion of Special Symptom Reactions.

ETIOLOGY

The etiology is unknown. The following are etiological considerations, but at present, considerations only.

1. *A congenital defect.*

2. *Organic Injury or Deficiency.* Psychopathic behaviour has followed encephalitis, and psychopathics' EEG tracings show higher percentages of irregularities, but nothing conclusive. Jahn and Greving have done work on the brain physiology of psychopaths, with interesting findings, but non-conclusive.

3. *Superior superego* which cannot be tolerated and is rejected in early life.

4. *The high IQ child,* because of its advancement, meets deep social and personal problems unprepared and sustains this trauma since more refined levels of behaviour seem often to be the most easily damaged.

5. *Superior unrealizable goals* have been set.

6. An *inherited disorder.*

7. *Parental Background.* Here, one often sees such common denominators as; inconsistency and lack of unanimity resulting in conflicting unstable identification; a weak pampering mother with a domineering father; lack of true relationship between spouses; overindulgent, overprotective parents who spare the child the pain occured in facing early life.

8. *Genetics.* Many interesting cases are known of psychopathic families or family trees, but there are as many cases with no such history.

In the midst of much contemplation though, it seems to be accepted by most authors that the psychogenic factors here must be impressively subtle; that the general psychopathic potential is a constitutional factor, well established from the start, but that influence of environment in development of the psychopath must be necessary. That is to say, the etiology is really unknown.

DIAGNOSIS

Most experienced psychiatrists claim that once one has seen a psychopath, they will never fail to recognize them again. Still, many an argument has arisen in attempting to conclude if a certain patient is really a psychopath.

This patient fulfills all ordinary theoretical criteria of a sound mind, yet is more incomprehensible than the psychotic. Under diagnosis, it seems simplest to list the characteristics that are generally accepted as present in the majority of psychopaths.

1. *Superficial Charm and Good Intelligence.*

These people are free also from social and emotional impediments, from minor distractions, and peculiarities, that may plague the successful normal person. They often give a first impression of overly robust mental health.

2. *Absence of Delusions and other signs of irrational thinking.*

3. *Absence of "Nervousness" or Psychoneurotic Manifestations.*

They seem poised even in the most embarrassing positions and any uneasiness or tension that does present itself, seems to be provoked by external circumstances, never by feelings of guilt, or insecurity.

4. *Unreliability.* The difficulty is that they often show excellent reliability for long spells, and break this unpredictably. They seem to disregard the consequences completely.

5. *Untruthfulness and Insincerity.* The psychopath is often convincing, owns up only when detections is certain, and often is surprised and vexed when one won't take him on his word of honour.

6. *Lack of Remorse or Shame.* They deny responsibility of their mishaps and are never sorry unless for purposes of manipulation.

7. *Inadequately Motivated Antisocial Behaviour.* They cheat, desert, annoy, brawl, steal, commit adultery and fraud for small stakes and large risks often with no apparent aim.

8. *Poor judgement and Failure to Learn by Experience.* Judgement is often superior in appraising theoretical situations but is poor in the process of living itself.

9. *Pathological Egocentricity and Incapacity for Love* (Object Love). This egocentricity is often just short of astonishing, or on the other hand, may be shrewdly hidden. Affective reactions are limited, lack durability and there is an absolute disrespect to the hardships he causes those around him.

10. *General Poverty in Major Affective Reactions.* If these are present, they are a readiness of expression, not a strength of feeling.

11. *Specific Loss of Insight.*

12. *Unresponsiveness in General Interpersonal Relations.* They cannot respond to kindness, trust, *etc.,* and never appreciate these feelings.

13. *Fantastic and Uninviting Behaviour with Drink.* The alcohol is thought to act as a catalyst leading to usually purposeless, unimaginable, antisocial acts.

14. *Suicide Threats Rarely Carried Out.*

15. *Failure to Follow any Life Plan.* The psychopath may even appear to go out of his way to make life a failure.

16. *An Uncanny Ability to Keep Out of Real Trouble.* These patients often stay just within the bounds of non-persecutable behaviour.

17. *A Perfect Mimicry of all emotions, but only a mimicry.*

18. *Sex Life is Impersonal, Trivial, and Poorly Integrated.* Volumes of literature could be written on this one aspect alone. There is often bizarre sexual behaviour, which seems to provide no satisfaction. Sex becomes physical, free from emotional concomitants, casual, not enthralling nor shocking. The heterosexual aspects seem dulled. This does not imply increased homosexuality, although the psychopath can often be engaged by the homosexual. These actions seem to be the result of total lack of self-imposed restraints rather than the results of strong passions. The psychopath often tries to make sex sordid and involves close relatives, benefactors, and other contacts in messy affairs, often of grotesque nature.

19. *Unawareness of Other's Living.* This is a persistant lack of awareness of what the most important experiences of life mean to others.

20. *An apparent Reality.* In examining the psychopath, it is often hard to point out in scientific or objective terms just why this person is not real, why he could not be a whole and normal man.

These characteristics are often, though not necessarily, noted to begin in pre-adolescent age and seem to fade away in the 4th and 5th decade (and there is no apparent male or female predilection.) Whether this is the birth and death of a psychopathic personality, or the exacerbation of psychopathic tendencies by ordinary adolescent and young adult turmoil and drive, is not known.

The psychopath is often equal to or better than normal by verbal or physical examination, not being technically demonstrable, becoming evident only in behaviour. Nothing on the outside represents the inside, and the psychopath passes all tests but the test of life itself.

At this point, it would be appropriate to enlarge upon one sphere of psychopathy, the sexual psychopath. In addition to the above characteristics, the sexual psychopath's behaviour includes socially prohibited aggressiveness, lack of regard for unwilling participants, inconsistant, compulsive and irresistable characteristics, lack of emotion, purposelessness, lack of real response to punishment or humiliation, and lack of realization of the consequences ensuing.

DYNAMICS

This is not a summary of dynamics of the psychopath, but a presentation of a few theories of many offered to explain why the psychopath "ticks" as he does.

Freud postulated that the psychopath is endowed with a super superego, such that his id cannot tolerate it. Freud felt that rather than repressing the id as the neurotic has been postulated to do, the psychopath completely rejects the superego and the associated anxiety, resulting in his behaviour patterns. Accordingly then (theoretically) one of the first signs of successful treatment of the psychopath

would be extreme anxiety. Others have felt that the psychopath is originally born with this lack of superego. That is to say, behaviour characteristics are not (as often is in other disorders) due to motivation increase, but due to less resistence to impulse, which has led to describing the psychopath as a "feather in the wind".

The appliance of the theory of Regression is interesting also. Regression in a broad sense may be taken to mean movement from richer and fuller life to levels of scantier, poorer developed life. It is, in other words, relative death. This regression is a reversal of all direction that life might be said to strive for and maybe must constantly strive against. It may be like the pull of gravity on a mountain climber, or a deliberate reaction of retreat. The tactics of this withdrawal are varied: the simplest is to blow one's brains out. The psychopath may withdraw skillfully, elaborately perserving his outward appearance against the detection of that from which he is retreating. Somewhere along the retreat it is postulated, he may lose the original aim of the withdrawal, and pick up aims which might then be regressed in themselves.

Many other theories have been put forth to explain aspects of psychopathic behaviour. These theories and endless variations of them are all plausible, none provable.

COMPARISONS OF THE PSYCHOPATH

. . . *With the Psychotic.* The psychotic differs in that he has obviously testable signs of disorder such as hallucinations, bizarre ideas ,etc. The psychopath is free from all these technical signs. By law the psychotic is insane, the psychopath is not. The psychopath however, can develop a psychoses.

. . . *With the Psychoneurotic.* Anxiety is the chief characteristic of the psychoneurotic, the chief missing characteristic of the psychopath. Anxiety occasionally seen in the psychopath has been explained as only manipulative procedure.

. . . *With the Mental Defective.* Generally, the full psychopath has an average or above-average IQ. But mental defectives may be psychopathic. Legally, the mental defective is generally not held responsible for his deeds, but the psychopath is held responsible.

. . . *With the Criminal or Deliquent.* The criminal's behaviour is usually constant, for the gains achieved, and the goals understandable. They try not to shame themselves, and continually break the law. In sudden violence, they may show evidence of uncontrolled passions, but punishment may help them, depending on the circumstances. On the other hand, the psychopath's behaviour is often sporadic, often never takes advantage of the gains achieved, and the purpose is obscure. They may go out of their way to embarass those close to them, even themselves, and they have an uncanny ability to somehow often stay just within the law. In spite of explosive and brutal characteristics, there is an underlying feeling of casualness. Punishment never helps the psychopath, and may make his antisocial behaviour worse.

. . . *With the Homosexual or other Consistent Sexual Deviant.* Not all sexual deviants are psychopaths, but all psychopaths show some abnormality in sexual activity whether overt or hidden. (This group and the following groups will be considered only briefly in comparison with the psychopath, for sake of brevity. Cleckley in *The Mask of Sanity* discusses these relationships exceedingly well.)

. . . *With the Genius.* Many geniuses of the world have exhibited what has been described as psychopathic behaviour. Some feel that the psychopathic personality allows a good IQ to function at its best, ignoring the other demands and stresses of life.

. . . *With the Alcoholic.* Alcoholism is only a segment of the psychopathic pattern, not the primary disturbance.

... *With the Malingerer.* Malingering is just an incident in the psychopath's career (often to escape the consequences of antisocial behaviour) whereas it is the main feature of the malingerer, to achieve aims and desires.

TREATMENT

Some standard psychiatry texts are liable to give the impression that the psychopathic personality is not important. This is far from the truth. The incidence is a hundred times that of poliomyelitis, and more than that of any psychoses except schizophrenia. These patients are not the province of anyone. Yet they are often the despair of doctors, ministers, lawyers, and social workers. A need for treatment thus becomes even more imperative.

First, there are the problems of treatment. One must be able to get his hands on the patient. This sounds unusual but the law protects the psychopath. It must suffice here, to leave legal aspects undiscussed, but the results are often a nonending circuit of social misdemeanor, jail, hospital, and around again. There are no facilities for psychopaths, as they belong neither in jails nor with psychotic patients. The psychopath can mimic cure. He often wins friends, relatives, and the uninitiated to his side in his fight against institutionalization. They may create great troubles in hospital wards and for the psychiatrist personally. Guvant and Yochelson have shown that strong and inappropriate negative attitudes towards psychopaths are commonly aroused in attending psychiatrists. Such feelings distort psychiatric management. These patients have no insight, will not establish rapport, and do not learn from experience.

Secondly, let us consider steps taken in treatment. Legal aspects of the problem of treatment run into the problems of legal competency and criminal responsibility of these people. The Pennsylvania Greenstein Act is one of the first that makes allowances for the psychopath. In other areas, legal shuffle of attitudes has been suggested: actual performance in living should not be ignored when competency is determined; there should be degrees of competency and legal responsibility (not just an all or nothing attitude); and the psychopath when diagnosed should be restricted legally indeterminantly until psychiatric judgment decides whether he can return to society, and can apply measures to safeguard and supervise the community and the patient.

In the medical sphere, much has been tried. It can safely be said about the following treatments, that although they have worked in special cases, have even shown promise in series studied, there is on the whole no practical satisfactory treatment of the psychopath. The range of treatment has included psychotherapy, institutionalization with supervision and probation, psychopathic social agencies, group therapy, change of invironment, barbituates in sporadic psychopaths, Ketogenic diets, thyroidectomy, castration, and selective lobotomy or topotomy. At present, further work is also being done on the preventive aspect of treatment. In spite of the appearance of futility one perceives, the sense of hopelessness obtained in trying to treat these patients, one must remember that only 40-45 years ago, T.B., Pernicious Anemia, and Diabetes Mellitus were all hopeless, and only 20 years ago poliomyeletis and cancer were hopeless. In this light, the problem of the psychopath takes on promise.

SUMMARY

The field of study and management of the psychopath is in great flux. It presently appears as a state with many unexplainable, unknown areas. Advances into etiology, dynamics, diagnosis, and treatment will be watched for with great interest as the Psychopathic Personality is an important problem in psychiatry, general practice, and society in general.

The concepts of psychopathic personality are varied, and classifications numerous,

making more detailed study difficult. Etiology is unknown and diagnosis is only by observation of behavioural characteristics in social surroundings. The dynamics of this order are controversial. The treatment (when not hampered by legal aspects) though accomplishing something in some individual cases, is on the whole, non-existent.

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Book Reviews

Insulin Treatment in Psychiatry

Proceedings of the International Conference on the insulin treatment in psychiatry held at the New York Academy of Medicine, October 25 to 28, 1958; edited by Max Rinkel, M.D. and Harold E. Himwich, M.D. 386 pages, Philosophical Library, 1959. $5.00.

This book presents the papers of seventeen scientists and clinicians along with some discussion and summaries by the editors. It is divided into three parts.

Part one deals with the history of the organic treatment of schizophrenia and the history of insulin shock treatment.

Part two deals with physiochemical research. Hormonal and biochemical changes in the blood and brain, and EEG changes are dealt with in this section.

Part three consists of clinical research and follow-up studies; it constitutes the main part of the book. Contributors from England, Argentine, Peru, Austria, and the U.S.A. give a global view to the use of insulin in psychiatry. The many contributors are a weakness though, for there is a good deal of repetition.

As a conference report, this book is quite good; the summary by Dr. Max Rinkel is especially noteworthy. Many scientific and practical questions are raised and a variety of views are presented. With the modern tendency for insulin to be supplanted by other methods of treatment, this book is a useful reminder of its effectiveness.

Physician's Handbook by Krupp, Sweet Jawetz, & Armstrong. pp. 11th ed. Lange Medical Publications. $3:50.

A small but concise handbook of facts and figures pertaining to almost every aspect of clinical investigation. The information, although incomplete, is accurate and up to date, and is presented with clarity and accessability. The book should eliminate the necessity of foraging through a library of textbooks to recall the many facts which should be, but rarely are, committed to memory. It should be of use to the practitioner, as well as the examination-bound student.

Medical Research and the Death Penalty by Jack Kevorkian. 75pp. Vantage Press Inc. $2.50.

The author broaches a controversial topic in an unusual manner. In a dialogue between protagonist and antagonist, he attempts to win the reader's support for experimentation on criminals condemned to die. Division of the book into seven "sessions", allows inspection of the problem from all points of view. The book is, if not convincing, easy and interesting reading.

Books received which will be reviewed at a later date.

1. *The Healthy Child* by Stuart & Prugh, 507pp. Harvard University Press (S. J. Reginald Saunders & Co. Ltd., Toronto) $11.00.
2. *Teaching Comprehensive Medical Care* by Hammond & Kern 642 pp., Harvard University Press (S. J. Reginald Saunders & Co. Ltd.) $11.00.
3. *Handbook of Medical Treatment* by Chatton, Margin, Brainerd, 569 pp., Lange Medical Publications. $3.50.
4. *Medical Research and the Death Penalty* by Jack Kevorkian, D.D.; 75 pp., Vantage Press, $2.50.
5. *Synopsis of Pathology* by Anderson, 876 pp. ill. 5th ed. The C. P. Mosby Co. $2.25.
6. *Pediatric Anaesthesiology* by Leigh, Belton, 461 pp ill 2nd ed. Brett-MacMillan Ltd. $12.00
7. *Disease and Advancement of Basic Science* by H. K. Beecher, 416 pp ill. Harvard University Press (S. J. Reginald Saunders Co.) $13.75
8. *Metabolic Homeostasis* by Talbot, Richie, Crawford, 133 pp ill. Harvard University Press (S. J. Reginald Saunders.) $3.30.
9. *The Natural History of Cerebral Palsey* by Crothers & Paine, 299 pp ill. Harvard University Press (S. J. Reginald Saunders & Co.) $7.40.
10. *Cancer in Families* by Murphy and Abbey, 74 pp. Harvard University Press (S. J. Reginald Saunders & Co.) $2.75.
11. *Help-Bringers* by Rogers, 125 pp. Vantage Press. $2.95.

Abstracts

ANOREXIA NERVOSA IN CHILDREN

Lenard I. Lesser, M.D.

American Journal of Orthopsychiatry
July 1960, Vol. XXX, Number 3, P. 572

Anorexia nervosa was first described as a clinical syndrome by Sir William Gull in 1868. He stated it was characterized by extreme weight loss, almost total failure of appetite and in women by amenorrhea bradycardia and constipation. He also noted that even with the great emanciation that occured in these patients they maintained a remarkable body vigor. The syndrome occured much more commonly in females.

More recent investigators have supported and confirmed Gull's original description in the adult. However few have studied anorexia nervosa in childhood and adolescence. This is a report on fifteen cases occuring in prepubertal and adolescent girls.

Clinical Features

The patients ranged from 6 to 16 years of age and the weight loss from 10 to 40 pounds. The syndrome occured in girls who were previously chronically thin as well as those previously obese. All patients were of average intelligence. In 40% of the cases anorexia nervosa developed in girls who were dieting because of excessive height at puberty or overweight and another 40% in girls who were unable to cope with a competitive situation.

Behaviour in Hospital

Eleven patient were hospitalized and all remained indifferent to their extreme weight loss. They constantly complained of the hospital diet but catering to their desires did not improve their appetite. Instead they attempted to deceive the attendants to make is appear as if they had eaten. The patients were adept at eliciting sympathy from hospital attendants and receiving special favours from them by playing one attendant against another. They even succeeded in playing the pediatrician against psychiatrist to such an extent that the pediatrician doubted the professional competence of the psychiatrist.

Hospital Management

In almost all of the cases the patients were successfully threatened with tube feeding. Only in two cases was it actually employed to establish a feeding pattern.

Follow Up Data

There were no deaths, one patient is a compensated psychotic and another was hospitalized for psychiatric treatment. Six have reached a fair social adjustment and seven a good or excellent one.

Analysis of the personalities of the patients involved revealed that they belonged in one of the following three groups: predominantly hysterical, predominantly obsessive, compulsive or predominantly schizoid. Good results were achieved in the patients with hysterical type personality and poor to fair results in the other groups.

Summary and Conclusions

Anorexia nervosa represents an assemblage of symptoms that stem from severe but diverse psychopathology. Prognosis seemed better in the preadolescent and adolescent groups than in other reported groups. Prognosis depended on the conflict and personality type with more success in the hysterical personality. Anorexia nervosa seemed commoner, milder, and more easily resolved in the younger age group.

—Ivan A. Bracalenti, '61

MELANOMA AND LESIONS SIMULATING MELANOMA

G. C. Andrews, A. N. Domonkos.
N.Y. State J. of Med.,
Vol. 60, p. 341, 1960

The early diagnosis and treatment of melanomas are important factors governing a good prognosis. This article considers predisposing lesions as well as those simulating the condition with such factors in mind.

Precursor Lesions:

a. *Junction Nevus*

These nevi are usually non-elevated, smooth, hairless and pigmented from light to dark brown. They can arise anywhere on the body. Those that become malignant occur on the palms, soles and in areas of constant trauma such as the waistline and brassiere areas. Prophylactic removal of such lesions in such areas prevents future trouble.

b. *Lentigo Maligna* (*melanotic freckle of Hutchinson*)

This lesion occurs in 2 stages. The first stage or premalignant stage is a lesion varying in diameter and with irregular borders. It is usually mottled with a light brown to black pigmentation. The coloring is not homogenious and the lesion is not elevated. It is common on the cheeks of women but can occur elsewhere. Any enlargment may be considered a sign of possible malignancy. This may not occur for many years.

The second or malignant stage may have numerous small tumors or indurated areas within the lesion. Metastatic spread to lymph nodes may occur.

Microscopically the first stage may only have increased pigmentation; however changes in the basal cell layer indicate the precancerous stage. The cells separate from each other and have large, vesicular nuclei. The protoplasm is light and fluffy. No mitotic figures are present. Some of the basal cells migrate to the cutis. The dermis shows an inflammatory response and many chromatophores are present.

Lesions Resembling Melanoma:

a. *Pigmented Seborrheic Keratosis*

This is a greasy, warty lesion seen on the trunk and face. It is easily treated by curettage after ethyl chloride refrigeration.

b. *Senile Keratosis*

The lesion is horny in appearance and occurs in middle-aged people with a history of long exposure to sun and bad weather. It appears on the face and back of the hand.

c. *Histiocytoma*

This is characterized by an indurated leison occuring on the lower extremities.

d. *Pigmented Basal Cell Carcinoma*

It is often difficult to distinguish this lesion from a melanoma, however the latter lacks the rolled-edge, waxy and nodular border of the epithelioma.

e. *Pigmented Nevus*

The verrucous nevus may be scratched, leading to an inflamed and bleeding lesion which may be confusing to the diagnostician. An infected sebaceous cyst may be found under a nevus. The edema, inflammation and bleeding may suggest pseudomalignancy.

f. *Sclerosing Angioma*

This hard, brownish, subepidermal nodule is rare. Microscopic examination confirms the diagnosis.

g. *Blue Nevus*

It occurs commonly on the lateral instep and cheeks and is bluish in colour. Rarely it may become malignant.

h. *Organized Hematoma*

This can be mistaken for a melanoma especially in subungual hematomas with slow resolution.

i. *Other Lesions*

Granuloma pyogenicum, granular cell myoblastoma, nevoxantho-endothelioma, Kaposi's sarcoma, lymphoblastoma and melanosis oris. Histologic examination of any of the above lesions is essential in diagnosis.

Various Forms of Melanoma:

a. *Melanoma*

Signs of malignancy in a junction nevus are: increase in size, crusting, warty appearance, bleeding and increased pigmentation. Inflammation may surround the border. The development of satellite pigmented macules resembling ink dots is characteristic. Metastasis to lymph nodes may be early or late and can occur without the nodes becoming palpable. Melanuria occurs late following extensive spread.

b. *Amelanotic Melanoma*

The sudden onset of an infiltrated, rapidly growing nodule with inflamation and maybe bleeding should make one suspect melanoma. Both the pigmented and non-pigmented forms may spread rapidly and be fatal.

c. *Juvenile Melanoma*

The nevi in childhood are usually of the junction type and the malignancy features are diagnosed by a rapid increase in size and pigmentation. The prognosis is usually good.

d. *Melanotic Whitlow*

This lesion has an insidious onset and a good prognosis if treated in time. The presence of pigment near or under the nail should be regarded as a melanoma until a biopsy diagnosis is made. Confusing lesions are onychomycosis or subungual hematoma.

Biopsy of Melanoma:

Recent studies have indicated that there is no reliable proof of metastasis being caused by biopsy of the lesion. Hence it is a recommended procedure.

Treatment:

Early diagnosis and surgical removal is the rule for melanomas. Local removal is adequate in juvenile melanomas and the removal of the involved digit in subungual melanoma. Local excision is also done for lentigo maligna and melanomas in old people. More radical surgery depends on the individual case. X-rays of the chest and skeleton and urinalysis for melanin indicating dissemination should be done. If these findings are negative and the lesion is near draining lymph glands, bloc removal and dissection are recommended. Some believe that prophylactic removal of non palpable nodes promotes a more favourable prognosis. If the lesion is on the foot or hand, local removal is combined with surgical dissection of the draining nodes in the axilla or groin. Age, location, duration and signs of dissemination are essential in evaluating each case. The dermatologist is one most competent to diagnose early melanoma and to differentiate it from other pigmented skin lesions.

—G. Biagioni '61

SYDENHAM'S CHOREA WITHOUT EVIDENCE OF RHEUMATIC FEVER.

J. L. Paradise,

New Eng. J. of Med.,
263, No. 13: p. 625, Sept. 29, 1960.

The author has done an extensive review of the literature concering Sydenham's chorea and has shown that it has been found in conditions other than rheumatic fever. The article includes case reports on two patients, one with the Henock-Schonlein syndrome and the other with Systemic Lupus Erythematosus Both patients also had chorea.

Two thirds of all patients with chorea have other evidence of rheumatic fever. Some authors belive that even when isolated, chorea is a rheumatic manifestation and may prove to be a late and solitary condition of the poststreptococcal hypersensitivity state. However the fact that chorea can occur with other "non-rheumatic" conditions must be kept in mind.

The author describes one patient who in addition to chorea had purpura, arthritis, abdominal pain, gastrointestinal hemorrhage and glomerulonephritis with a positive Rumpel-Leede test, all characteristics of the Henock-Schonlein syndrome. He also describes one patient with Systemic Lupus who also had chorea. He found nine other such cases reported in the literature. Hence chorea may be a neurologic manifestation of these systemic conditions or poststreptococcal hypersensitivity may have played a role in some of the reported cases.

There is no significant evidence to support the psychogenic theory as a sole cause of "non-rheumatic" chorea. However it is possible that emotional factors contribute to the development of it regardless of the underlying etiology.

—Eugene Biagioni, '61

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News and Views

The 15th annual John A. MacGregor Memorial lecture was presented at the Medical School on October 12, 1960. Members of the Medical faculty, Medical students and local practitioners heard Dr. Benjamin Castleman, the distinguished New England pathologist, speak on "The Clinicopathological aspects of Hyperparathyroidism."

Dr. Castleman began his very interesting talk by stating that hyperparathyroidism is far more complex a disease than was formerly thought and the purpose of his talk was to show how "new clinical syndromes fitted in with the original scheme of things."

In the past this disease presented various clinical pictures as follows:

Classical Von Recklinghausen's disease with general decalcification of bone, bone cysts, multiple fractures and an increased serum alkaline phosphatase; General mild osteoporosis; Renal stones—50% of which had no bony changes; and multiple endocrine abnormalities. The symptoms of hyperparathyroidism were due to three main factors; hypercalcemia, excretory factors and skeletal factors.

On reviewing the anatomy of the parathryoid glands, it was noted that due to the close proximity of the esophagus a tumor of the glands often would show up radiologically on barium swallow.

A common cause of Hyperparathyroidism is adenoma. Grossly, this benign lesion presents as a well circumscribed encapsulated knobby gland, orange brown in color. In long-standing cases calcification of the glands and mild renal stones may be present. Microscopically, there is a rim of normal parathyroid tissue around the adenoma and often cystic degeneration. The cells are not increased but the nuclei may be enlarged—showing a trend to oxyphilia. It was noted that in the classical form of the disease the serum calcium was 14 mg plus and the parathyroid glands weighed 1-4 gm, while in the non-classical type (with renal stones) the serum calcium was lower (10-11 mg %) while the glands weighed less than 1 gm. As a result the surgeon has a much harder time trying to find the glands in the latter case.

Another important finding was that the parathyroid glands often descended too far in embryological development and were found in the mediastinum.

Carcinoma of these glands is rare (1% of cases). Here the glands are not well encapsulated but are adherent to surrounding tissue and a wide excision is needed at the time of surgery. Mitoses are numerous and metastases, although slow, do occur—e.g. to liver and bone.

Primary hyperplasia and hypertrophy of the water clear cells involves all four glands. The glands are enlarged, chocolate brown and knobby in appearance. In the past this disease has been confused with hypernephroma of the neck since histologically the appearance is not unlike hypernephroma of the kidney. This disease is peculiar in that the upper glands are enlarged much more than the lower ones. Most of the cases have renal stones and a high serum calcium. However the serum phosphorus usually is not elevated. Most cases come to hospital as a result of renal stones. Surgery is the treatment of choice and although this is not a curative procedure, the prognosis is good.

Another form of hyperplasia is secondary hyperplasia of chief cells, with chronic renal disease. This is sometimes seen in children with renal rickets, chronic glomerulonephritis and/or pyelonephritis. Here the serum calcium is low while the serum phorphorus level is elevated—due to bony lesions. Again a disproportion in the size

of the various parathyroid glands is seen. Histologically, the chief cells may be enlarged and increased in number with obliteration of the fat cells. There may be an increase in oxyphil cells.

The latest type of hyperparathyroidism to be recognized is primary hyperplasia of the chief cells. Histologically, this is similar to secondary hyperplasia seen in chronic renal disease. Here the serum calcium is elevated but the phosphorus level is low; All of the parathyroid glands may be involved and a subtotal resection of the fourth gland with complete removal of the other three glands is the treatment of choice. In the past, many of these cases have been called multiple adenomas and have often been associated with other endocrine abnormalities such as pituitary tumors, pancreatic tumors and peptic ulcers. This relationship helps to explain the fact that some cases of peptic ulcer cleared up when the parathyroid galnds were removed. Heredity was also mentioned as a predisposing factor. It was noted that endocrine abnormalities often existed in families of patients with hyperparathyroidism.

In conclusion, hyperparathryoidism manifests itself in many ways, but aids to a correct diagnosis are the clinical picture; laboratory investigation, such as serum calcium and phosphorus; and the gross and microscopic pathology.

By these means, appropriate treatment can be determined. The surgeon may be aided in his course of action as well from the above investigations,—whether he should do a radical excision of three glands and subtotal resection of the fourth, whether only one or two glands need be removed, or finally, finding all glands normal—should he look elsewhere for a pathological gland i.e. in the mediastinum.

—R. Redinger, '62