evaluation of the personal behavior of their children. It would therefore seem reasonable to assume that these parents were better qualified than the average parent to act as objective raters of their own youngsters. In addition, it will be recalled, the instructions on both the parents' and nursery school rating sheets cautioned them not to permit their own biases to enter into the evaluations of the behavior of the subjects. On the other hand, the well known weaknesses inherent in the use of rating scales must inevitably lead to cautious interpretation.

5. On the basis of the foregoing observations, it is evident that the results of this study should be very conservatively interpreted and considered merely as a preliminary and pragmatic attempt at validation procedures.

6. In view of the nature of this study, it should be realized that the size of N is directly limited to and contingent upon the number of cases whose parents have first undergone individualized psychotherapy.

7. It is suggested that future research could appreciably enlarge the scope of validating the control room procedures by (1) utilizing suitable test material for purposes of evaluating the emotional adjustment levels of the parents both before and after psychological re-education, and (2) applying available personality measures upon the children both before and after regular use of the control room. The Rorschach could very advantageously be used in both of these instances. Of added significance would be a more extended follow-up study which would measure the extent of personality gains over a period of several years by the C. R. subjects.

8. The results of this study appear to be in a positive direction and suggest the conclusion that with an increased N and with the application of more extended validational methods as previously suggested, there is reason to believe that greater validity would be established in proving the control room to be a most effective procedure for the healthy organization of the child's behavior.

BIBLIOGRAPHY

1. FREEMAN, M. J. The development of uniform and specific measures for the organization of child behavior in the home. *J. clin. Psychol.*, 1947, 3, 230-246.
2. FREEMAN, M. J. Changing concepts of crime. *J. Crim. Psychopathol.*, 1942, 4, 290-305.
3. FREEMAN, M. J. A study of relationship in motor learning. *J. Psychol.*, 1942, 14, 217-225.
4. LEVY, D. M. *Maternal overprotection.* New York: Columbia University Press, 1943.
5. RIBBLE, M. A. *The rights of infants.* New York: Columbia University Press, 1943.
6. SLAVSON, S. R. *Introduction to group therapy.* New York: Commonwealth Fund, 1943.
7. WOLBERG, L. R. The character structure of the rejected child. *Nerv. Child,* 1944, 3, 74-88.

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THE PSYCHOLOGY OF CONTROL

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INTRODUCTION

Due to the influence of objective psychology which limited the subject matter of scientific psychology to phenomena which could be objectively demonstrated and measured, phenomena related to self-control or volition have generally been neglected or denied in American psychology. The unfortunate effect of the rejection of these concepts was the denial of the reality of the phenomena with which they attempted to deal. Thus in clinical psychology and psychiatry, standard methods of diagnosis and therapy give little attention to problems of control because of the assumption that behavior is caused by some form of psychic determinism represented by instincts,

childhood conditionings, constitutional factors, unconscious complexes or other processes over which a person can exert little conscious control. It became therapeutically unfashionable to attempt to train the patient in methods of self-control since it was assumed that depth factors in personality could only be influenced by psychoanalysis or some other depth therapy.

The purpose of this paper is to stress the importance of a reexamination of the whole problem of self-control or volition in order to facilitate a trend back to the more central position of recognizing the existence of personality factors contributing to self-control, and of developing techniques for diagnosing and treating disorders of control. Richards[9] recognizes the importance of the problem when he devotes large sections of his recent text on modern clinical psychology to the nature of control and methods for its appraisals. His discussions constitute one of the most eclectic and valuable treatments of the problem. De Forest[2] discusses the significance of the self-control developed during psychoanalysis emphasizing that without knowledge of Self, intelligent control is impossible. Self-knowledge results in the productive freeing of intelligence by making possible finer discriminations and choices between alternative actions. This "channeling" of self-expressive impulses involves a basic distinction between the existence of affective life and the patterns of its expressions. Control does not involve a rigorous repression or inhibition of feelings, but rather an intelligent choice of which emotions to express and how to do it.

Definitions. The existence of specific processes in personality designated by the terms *self-control, conation, volition* or *Will-Power* is difficult to demonstrate directly but may be inferred from objective and subjective observations of behavior in which a person shows some ability to (a) repress or modify affective expressions, (b) discriminate cues more exactly, (c) learn adequate verbal (symbolic) representation of problems, and (d) initiate action by appropriate self-signaling devices. One of the most patent facts of introspection is that the normal person is consciously aware of an ability to think over problem situations, recognizing and weighing alternative plans for action, and then choosing whichever plan best suits the needs of the moment. The psychophysical determinants of conscious volition are not currently completely known, however experiments such as that of Hudgins[7] suggest that the psychology of learning will eventually demonstrate the mechanisms involved.

Self-control involves the conscious ability to initiate, sustain, suppress, repress or terminate behavior, particularly the conscious control of affective expression. Although the possession and intensity of feelings, emotions, impulses and attitudes may be determined involuntarily (unconsciously) and are therefore beyond control since they exist as facts, it is also a fact that definite methods are available for diagnosing disorders of control and instituting appropriate training procedures. The factors determining self-control are not instinctive, intuitive, supernatural or mysterious, but are the result of a definite learning process involving a large number of specific patterns which any particular person may or may not master. Although limited by innate capacity, the acquisition of control appears to be specific to certain learning situations and cannot be expected to exist in the absence of adequate training. In his concepts of *discriminative capacity, drive arousal* and *discharge control,* Freeman[5] outlines the factors involved in the learned ability to selectively utilize the innate functions of excitation and inhibition which exist in the intact organism.

Nature of Control. While such concepts as mind, self-control, volition or Will-Power are admittedly mentalistic and therefore controversial in relation to psychological science, the phenomena may be investigated by operational methods which do not pretend to elucidate absolute properties but are concerned with the reporting of observations, procedures and steps which intervene between the initial and final acts of a behavior pattern. The nature of controls may be objectified by operational studies of the

conditions and situations in which control is learned and exercised. For operational purposes, it does not matter whether the type of control to be learned involves the acquisition of hand-eye coordination in an infant or of skill by the violin virtuoso. Qualitatively, the steps involved in acquiring self-control appear to be similar although large quantitative differences are observed in degrees of skill acquired. The acquisition of control may occur in a few minutes, as in learning to synchronize clutching and shifting operations in driving an automobile, or may require many years of intensive practice as in learning to be a tennis star or a fine craftsman of any type.

Because of the relatively short life span and the almost infinite number of controls to be learned, it is inevitable that any person may acquire only a limited number of patterns of control. Due to the infinite richness of human living, almost any permutation or combination of types and degrees of control are possible. It will require intensive research of the magnitude currently engaged in the study of the nature of intelligence to elucidate the nature and variety of types of control. Suffice it to state that the appraisal of control in personality study is equally important to the appraisal of capacity and motivation, and deserves more attention than it has thus far received.

Emotional Controls. The problem of learning to control affectivity presents technical difficulties of similar complexity to the learning of any complicated act such as playing the piano. One cannot learn any complicated task without long hours of intensive training and practice beginning with elementary tasks and gradually learning more difficult ones. It is no more possible for a person to exert emotional control without preliminary training than to expect him to go out and play tennis after being told to do so. The accomplishment of any complex type of control cannot be acquired directly from observation or reading but must be learned organically by doing with repeated practice until the required coordinations become perfected and habitual. Ideally, as with any other type of complicated training, exercise of emotional control should be taught in early childhood so that the person gradually and progressively acquires the ability before acute need for application arises. Unfortunately, this training has not been acquired by many neurotics and immature personalities before they become involved in maladjustments and one of the objectives of therapy thus becomes to accomplish this training which should have been begun many years before. It is obvious that the longer such training is postponed, the greater are the technical difficulties in accomplishing it under conditions of acute maladjustment.

From this viewpoint, then, a major objective of psychotherapy is the beginning of a course of training in emotional control so that the person (a) learns to perceive affective components in his personality, (b) learns to understand their role in the psychic economy, (c) learns to discriminate between those which can and cannot be modified, (d) learns to accept and live with those which are unmodifiable, and (e) learns to express affectivity selectively and appropriately by the use of mechanisms to be outlined later. This therapeutic objective may involve tasks of varying degrees of complexity, but the hopeful fact is that every person possesses some degree of potentiality for learning to control affective-impulsive behavior.

Clinical Applications. As emphasized by De Forest[2], disorders of control are a common denominator in almost all mental disorders in which each symptom shows the constant element of a person unable to control some factor in himself, of being at odds with himself. Intellectually, the person may want to control himself and may know what he should do, but he is unable to control affective-impulsive behavior. Exhortations to the person to use Will-Power in developing self-control are notoriously unsuccessful because if the person could have done so he would have done so. It is admitted that in the more global personality disorders such as the psychoses, the person has little ability to control involuntary manifestations of the disease. But in the neuroses, attitudinal pathoses and minor maladjust-

ments, the person may have sufficiently intact resources to learn control and it is here that it is important to diagnose disorders of control and to give suitable training. The basis of all depth therapy is to uncover the unconscious complexes and emotional blocks which are etiologic to maladjustment, so that by acquiring insight and increased self-knowledge the basis is laid for more effective control. But as Rank[8] and others have indicated, insight into the etiologic causes of maladjustment is frequently insufficient to result in adjustment unless this heightened self-understanding can be translated into effective action. The person comes to understand how he got that way, but still does not know what to do about it. Insight and self-knowledge may facilitate the learning of control but they are not identical with control.

Modern psychiatric theory postulates that immature or conflictual emotional attitudes are the etiologic factors in functional mental disorder. From the viewpoint of this paper, these conflicts exist as facts and the significant thing is not their existence as natural phenomena but what the person *learns* to do about them. It is conceived that control of affective expression is one of the most difficult tasks confronting any person, particularly if he is constitutionally predisposed to intense affective reactions. Richards[9] has listed inadequate forms of control under the designations of (a) over-control or repression, (b) under-control or overexpressiveness, (c) tentative control or anxiety, and (d) distortions of control resulting from attempts to resolve the conflict between the Pleasure-Pain and Reality principles. Disorders of control may represent either failure to learn controls, faulty or inadequate learning, or as involving constitutional or learned reactions to stress. From our viewpoint, disorders of control are to be regarded as learning problems.

Diagnosis of Disorders of Control

General. Assuming that patterns of control are learned specifically with little transfer of training except in general methods, any comprehensive diagnostic evaluation must include the entire range of performance from simple habitual routines to studies of how the person controls himself under the most acute conditions of stress. This information may be obtained from any of the standard techniques of personality appraisal in which the emphasis is placed on evaluating control. Richards[9] has given the most comprehensive discussion of the utilization of direct and indirect methods in the appraisal of control. Although not primarily designed to measure control, prolonged direct observations, case history methods, intelligence tests, projective tests, attitude tests, aptitude tests, personality inventories and many other methods may be utilized. Richards uses this data to answer the questions: Is the person functioning at fullest capacity? If the person is to some degree incapacitated, what are the personality dynamics involved? Major emphasis is placed on emotional factors which are accepted to be of major etiologic importance.

It is probably invalid to attempt to evaluate control on the basis of test results alone since few tests sample a large enough area of concrete behavior situations. In actual practice, the case history usually gives clear indication of the behavior areas in which control is lacking. It is theoretically possible to quantitatively arrive at a measure of over-all control, possibly called the Control Quotient (CQ), which would relate a person's control at each chronological age with standard norms at each age level. This is a research project of the future. A variety of standard experimental methods are available for measuring both the amount of control and its fluctuations in specific situations. Many of the classic experiments, such as reaction time and other motor coordination tests, need to be reevaluated as measures of control. Among test instruments, the Doll Social Maturity Scale is an example of a device which systematically samples examples of control in young children.

Outline for Evaluating Control. Since 1939 we have attempted to make appraisal of control a formal part of every personality evaluation[1]. Some evidence may be obtained from observation in test situations and personal interviews, but in

our experience it is desirable to obtain a representative sample of estimates of control in certain standard life situations in which disorders of control are known to be common. World War II experience in the examination of army selectees indicates the importance of collecting objective evidence concerning actual behavior in areas wherein control is a critical factor. It seemed possible to construct a simple outline for questioning (both direct and indirect) which would elicit reliable data concerning control. Preliminary investigations indicated that important evidence could be obtained by sampling behavior in the areas of (a) habits and routines of living, (b) patterns of affective expression, (c) stability of work habits, (d) personal conduct with reference to law and order, (e) conduct in social situations, and (f) personal responsibility or dependability involving the ability to learn and do what is expected of one. Every individual has theoretically been exposed to extensive training routines intended to develop control in each of these areas, and it is easy to obtain direct and indirect evidence concerning extent of control shown.

The outline is divided into four parts for use with age groups in the ranges of 0-5 years, 6-11 years, 12-20 years, and adulthood. Ten areas of conduct were chosen in each age range which on the basis of clinical experience were believed to measure control. No validation experiments have been attempted with the preliminary scales which are offered only as a research approach. However, it will be noted that the scales include items included in standard outlines for interviewing and on personality inventories. A numerical score might be assigned on the basis of total number of items successfully passed, but this value would theoretically indicate only roughly how successfully the person had learned specific patterns of control.

An Outline for the Appraisal of Control

I. Early childhood (0-5 years).
  1. Neuromuscular coordination.
    A. Age of sitting, walking, running, talking and other coordinations.
    B. Measures of the quality of the above patterns. Ability to sit quietly, etc.
  2. Control over natural functions.
    A. Age of bladder control (day and night) and bowel control.
    B. Eating habits. Does child eat steadily and uncoaxed? Use of table utensils? Eat everything? Eat rapidly or dawdle? Table manners unprompted?
    C. Sleeping habits. Go to bed without continual prompting? Sleep with light out? Keep coming down stairs, crying or demanding attention?
  3. Emotional expression.
    A. Crying. Does he use crying to get attention? Thresholds of crying (high or low)? Ability to withhold tears?
    B. Fear. List phobias.
    C. Anger and rage reactions. Threshold and frequency of temper tantrums?
  4. Habitual manipulations. List habitual manipulations such as thumb sucking, nose-picking, nail biting, pounding head, rocking, masturbation, etc. Age at which stopped each?
  5. Habits of play and work.
    A. Play. How well does child entertain self? Can he tolerate being left alone for long periods? Persistence at play activities?
    B. Work. Perseveration at simple tasks within ability? Ability to complete difficult tasks.
  6. Social behavior.
    A. Conduct in group situations. Control of excitability? Boisterousness?
    B. Socialization. Actions toward other children? Control of aggressiveness?
  7. Handling of property.
    A. Destructiveness. Age of controlling wanton destructiveness, *i.e.*, tearing off wallpaper, defacing walls, destroying toys, breaking furniture, etc.?
    B. Care of personal possessions. Brings toys in? Keeps toys neat?
  8. Reaction to authority.
    A. Obedience. Without prompting? Without rewards or threats?
    B. Reaction to direction. Accepts or rejects direction?
  9. Responsibility.
    A. Carefulness. Wanders away from home? Crosses street carefully?
    B. Time schedules. Has some idea of paying attention to time? Dresses self on time?
  10. Reactions to stress.
    A. Separation from parents. Able to have parents leave home at night? Adjustment to baby sitters, strangers, etc?

B. Self-reliance. Does remain stable under pressure, seeking a solution? Or tend to disintegrate emotionally?

II. Childhood (6-11 years).
1. Neuromuscular coordination.
A. Athletic ability. Able to climb, run, ride bicycle, play baseball, football, ski, etc.?
B. Use of hands. Able to do fine work, write, handle tools, paint, play piano, etc.?
2. Personal habits.
A. Personal cleanliness. Wash regularly? Take baths alone? Clean teeth? Care of personal apparel?
B. Eating and sleeping. Judgment in choosing foods? Gorge candy or other foods if given opportunity? Goes to bed on time? Gets up on time?
3. Emotional expression.
A. Further observations on phobias, tantrums and crying.
B. Reactions to frustration. Quarrelsomeness? Can stand teasing, kidding?
4. Habitual manipulations.
A. Masturbation. Learns not to be conspicuous? At night?
B. "Nervousness." Able to stand or sit still? Always handling or touching things?
5. Habits of play and work.
A. School routines. Able to complete exercises? Checks work?
B. Work at home. Chores completed alone? Plays or works at models with purpose and continuity?
6. Social behavior.
A. Courtesy and respect for rights of others.
B. Subordination to group welfare. Self-effacing? Modest?
7. Handling of money and property.
A. Use of money. Thrifty or spendthrift? Judgment in spending?
B. Conservation of property. At home? School? In community?
8. Conduct.
A. Truthfulness.
B. Honesty. Steals? Cheats?
9. Responsibility.
A. Keeps word. Trusted to follow time schedules?
B. Obedience. When unwatched? Reactions to authority and direction?
10. Reactions to stress.
A. Self-control in meeting new situations. Before groups? Competitive athletics? Away from home?
B. Resistance to pain. Cries when injured?

III. Youth (12-20 years).
1. Neuromuscular coordination.
A. Gross coordinations. Skating, dancing, athletic ability, tennis, diving, etc.?
B. Fine coordinations. Typing, mechanical ability, etc.?
2. Personal habits.
A. Attention to dress, posture and other expressive behavior. Neat? Hair and nails? Personal hygiene?
B. Eating and sleeping habits. Selection of meals outside home? Well-balanced diet? Likes everything? Use of tobacco? Time of retiring? Regular sleeping habits?
3. Emotional expression.
A. Sex behavior. Masturbation? Homosexual attitudes: freedom of expression? Heterosexual adjustment? Moderate or excessive?
B. Reactions to frustration. Good sport when losing? Controls self when provoked? Stress situations?
4. Work and recreation.
A. Work habits in school? At home? Outside home? Earns money for self?
B. Recreation. Skillful at variety of sports and games? What kind of competitor?
5. Intellectual control over affective life.
A. Control over impulsive behavior. Ability to sit still and wait for something to happen? Ability to withstand impulses?
B. Concentration. Ability to plan and execute actions to completion?
6. Social behavior.
A. Further training in socialization. Tactful? Altruistic? Group member? Participation in group activities? Smooth or difficult?
B. Dominance-submission ratios. Socially at ease? Able to hold own? Leader or follower?
7. Money and property.
A. Financial ability. Able to manage own affairs? Judgment in spending? Saves?
B. Personal property. Leaves things better than found them? Keeps things neat and clean? Keeps things in repair?
8. Conduct.
A. Reaction to law and authority. Bad companions? Frequent troubles with law or authority? Behavior in school, community and home?
B. Dependability without supervision. Easy to influence in wrong directions? Honest under temptation? Assumes responsibility for errors?
9. Health.
A. Reactions to disease or pain. Gives up easily? Stoic to pain?
B. Cares for self. Dresses properly to avoid exposure? Treats self or seeks care intelligently?
10. Responsibility.
A. Self-regulation. Effective? Carries out what knows should do?

B. Effective self-stimulation. Initiative in solving problems on own?

IV. Adult scale (21 years and over).
1. Personal habits.
A. Regularity of routines. Life well ordered? Balanced routines of living?
B. Utilization of time. Generally well occupied? Able to use leisure time efficiently? Entertains self with own resources?
2. Work habits.
A. General efficiency in work. Rating as worker? Quality? Quantity?
B. Specific work skills.
C. Work history. Changes of jobs? Satisfied? Fits in well? Promotions?
3. Affective behavior.
A. Stability and excitability. General control? Appropriate expression? Emotionality interferes with adjustment?
B. Frustration or stress. Able to control anxiety? Phobias? Chronic fear or anger states?
4. Sexual behavior.
A. Marital life. Adjustment? Moderate? Passion or genuine love?
B. Extramarital. Promiscuous? History venereal disease?
5. Interpersonal relations.
A. Family life. Likes children? Can handle them? Able to control aggressiveness or rejecting attitudes?
B. Other people. Human contacts easy and pleasant?
6. Money and property.
A. Financial. Budget? Sticks to it? Solvent? Investments?
B. Property. Keeps things up? Constantly improving things?
7. Civil record.
A. Asocial behavior. How many times arrested? Lawful and orderly?
B. Indulgence. Alcohol? Drugs? Tobacco? Social nuisance?
8. Health.
A. Reactions to disability or disease. Hypochondriasis? Per cent of time well?
B. Reactions to aging. Accepts aging? Adapts intelligently? Compensates?
9. Responsibility. (See previous levels)
10. Tolerance to stress and frustration. (See previous levels)

The items of this outline are recognized to involve a complexity of factors, but for present purposes they are to be interpreted as possible indices of control. It is assumed that the presence or absence of adequate training is the factor which determines whether any specific pattern of control is present. The items given above are intended only as a basic outline which may be supplemented according to the requirements of each case.

Analysis of Failure to Control. After the specific areas have been identified in which disorders of control exist, the second part of the diagnostic process involves the analysis of exactly what the person is failing to do or is doing wrong. The intensive diagnosis of areas of maladjustment will involve methods of trouble analysis such as are used in efficiency engineering. It may be necessary for the examiner to follow the person around with a note book in hand in order to observe the client's actions in detail. The rationale for this procedure is based on the premise that control is acquired as the result of learning process which may be analysed by known psychological methods. Expert psychological observation will usually reveal exactly what the person is doing wrong or failing to do, so that after an adequate job analysis it is possible to delineate the steps which must be efficiently accomplished.

Techniques for Training in Control

General. From our viewpoint, the acquisition of skills of all kinds may be regarded as involving problems of self-control whether the individual skill be learning to play tennis or learning to control emotionality. Training procedures in some skills are much more highly developed than in others since it is only with the evolution of civilization that many skills have been acquired and been considered proper subjects for training procedures. In the psychological field, noteworthy attention has been directed to the development of improved methods of sensory training, perceptual training, memory training, learning, muscular training including muscular relaxation, and many specific types of job training. On the highest levels of thought, the method of Yoga is an example of the intellectual controls which can be acquired. To date, there has been no systematic attempt in scientific psychology to explore the relationships of specific control skills to the problem of adjustment.

Are there personality disorders in which the principal etiologic factor is the failure to acquire requisite skills in various types of control? If so, can these phenomena be experimentally analyzed with the clinical objective of discovering rational methods of training and retraining?

If the basic assumption is accepted that self-control is a function of certain types of learning skills, then it follows that even the most difficult problem of training for emotional control depends upon the same basic laws of learning as apply to the acquisition of all other skills. Simply stated, one attains control only by repeatedly practicing it in an organic learning process, starting first with small matters and progressively perfecting the ability with problems of increasing magnitude. In our opinion, psychotherapy (like all learning situations) must involve two phases: (1) arranging the proper conditions conducive to learning, and (2) the actual training procedures involved in learning itself. Under arranging the proper conditions conducive to learning there may be subsumed such problems as removing emotional blocks to learning, securing suitable motivation to learn, removing ideological blocks, etc.

Intensive training in any skill is a laborious process which requires the most meticulous attention to many small details until performance approximates perfection. Until the client can be motivated to *work* at this most difficult task, training efforts will not be successful. The long hours of practice involved in perfecting any skill are filled with unspectacular monotony from which there is no short cut and which are not easy under the best of conditions. The problem is much more complicated with the neurotic person whose basic habits and attitudes are immature or unhealthy, and where training is started under the disadvantage of being forced to unlearn maladaptive reactions before new ones can be substituted. In maladjustments characterized by disorders of control, the therapeutic objective will be to train or retrain the client in order to develop skills which should have been learned early in life.

From the viewpoint of the psychology of learning, all methods of habit training appear to involve a standard pattern involving four principal processes:

1. *Analysis of the task or problem* with the objective of determining the necessary steps and how to accomplish them most efficiently. As Havelock Ellis once said: The important thing is to determine what the problem is. After that, solutions usually become apparent.
2. *Stimulate positive attitudes* in the learner by suitable motivational devices such as incentives. Structure the learning situation so that the learner knows what is expected and how to go about it.
3. *Provide practice situations* so that the learner can organically improve the skill by doing.
4. *Evaluate progress* not only to provide incentive, but also to prevent relapses or remissions or regressions.

Training proceeds most economically when the learner wishes to improve himself and accepts the restrictions imposed by the learning situation.

Elementary Steps. Training in control may well begin with basic habits of living by establishing a regular routine which tends to stabilize habits and to minimize procrastination. Evaluation of the daily schedules will frequently reveal disorders of control in relation to many little routines of living. The person exhibiting over-control may be gradually trained in greater expressiveness, while the under-controlled person learns to exert repressions. The level of habit formation at which training is begun will depend upon the degree of disorganization present. Severe psychoneurotics and psychotics may require retraining in the most elemental routines, while persons with greater integration and efficient daily routines may start their training with relatively more difficult problems. Elementary steps may involve such problems as arising or going to bed at a stated time, eating regularly, adhering to work schedules, decreasing number of cigarettes smoked, attending to small duties formerly neglected, etc.

More or less firm but friendly supervision and direction may be necessary in accomplishing these first steps in control. Severely upset persons may be too ill to accomplish even the simplest tasks at home alone, and this may constitute an indication for institutionalization until a

working routine is acquired. In less severe cases, it may be desirable for relatives or associates to exert a firm but gentle insistence upon conformance to routines until such time as the person is able to continue alone. Supervision of this type is normally encountered in many life situations such as in schools, at work, or in group activities where subtle pressure is exerted upon the nonconformist to go along with the group. As with any other procedure, the quality of results will depend upon the skill and tact with which such supervision is exerted. It will be noted that such active measures may be indicated even in passive methods of therapy such as psychoanalysis. Freud[4], Ferenczi[3], Herzberg[6] and other analytically oriented therapists have outlined similar indications for dealing with specific problems of control. Much time may be saved if the total situation is arranged so that palliative and supportive treatment on symptomatic levels deals effectively with practical problems which must be dealt with before more basic etiologic causes are attacked.

Dealing with Negative Attitudes. Accepting the basic principle that little progress can be expected until the person begins to develop positive attitudes toward himself, it is necessary to uncover negative attitudes which impose limitations upon action. Every emotionally unstable person is aware of defects of control and usually states that he knows he shouldn't do such things but somehow can't stop doing them. These negative attitudes induce powerful negative suggestion effects, and little progress may be expected as long as they persist. The client is usually correct in his protestations of being unable to control himself, but is incorrect in believing that he doesn't possess the capability of learning control. It is futile to argue with the person or to exhort him to do things which are obviously beyond his control of the moment. The proper procedure is to revert back to simpler tasks until something is discovered which the person can do, and then to begin training on increasingly more difficult problems as the ability to exert control is developed. An important step in this procedure involves the demonstration that there should be no such attitude as is involved in the word "can't." Suggestion techniques may be very effective in reversing such attitudes, but in themselves will effect no etiologic cure, unless reinforced by other training methods.

The prime objective is to demonstrate to the client through his own experiences in solving increasingly difficult problems that he possesses inner resources of which he had not formerly been aware. These inner resources have been designated as Growth Principles, homeostasis, etc., but for current purposes may be subsumed under the general fact that *every intelligent person possesses large potentialities for learning.* Once the client discovers that there are ways of learning to solve problems formerly considered unsurmountable, positive attitudes toward self begin to reassert themselves and the retraining process gains momentum. Even the most severe psychoneurotics possess large resources for retraining if sufficient patience and facilities are available to carry them over the long and intensive training period which is usually necessary to achieve training in control. Finally, it must be emphasized that a complete impasse will be reached if the therapist holds negative attitudes and in any manner communicates them to the client. No case should be regarded as hopeless either by therapist or client.

Principle of Repetition. Unending practice is necessary to acquire and maintain habits of control. All skilled acts require more or less conscious attention until they are mastered and become automatic or habitual. Even after control is acquired, it must be practised constantly to prevent deterioration of function which may occur very rapidly particularly under severe emotional stress. During all life periods, every person is daily confronted with a myriad of tasks which he is disinclined to do. Simple inertia is perhaps the most difficult to overcome; to get started at an unpleasant task is frequently the most difficult part. Once underway, momentum tends to accumulate and carry through the activity to com-

pletion. Very few children are trained to master inertia and to make a start on things which they are disinclined to do. Instead they become adept at utilizing every possible escape mechanism in order to avoid the unpleasant and follow roads of least resistance. A large, as yet undetermined incidence of people never succeed in training themselves to do what they should do when it should be done.

One secret of perfecting self-control is to learn to execute tasks which one is at first disinclined to do. Early in life the child should be taught to systematically perform tasks which are unpleasant or formidable. Such tasks will usually be of graded complexity and within the possibilities of accomplishment. It is only after years of practice in doing what one does not want to do but knows is right, that control is established. There is apparently no shortcut for this intensive training whether it occurs in childhood training or in psychotherapy. This may be explained to the client with emphasis on the fact that only through constant repetition is perfection acquired in any skilled act. The client must learn that it is only through hard work and persistent concentration that the desired results will be accomplished.

Verbalization. Shaffer[10] states that the neurotic lacks self-control because (a) he represses or resists verbal representation of his problems and is therefore lacking in the verbal cues upon which to base a discriminative response, and (b) these voluntary responses are not reinforced by "self-signalling" involving silent implicit speech, or some other symbolic postural or gestural stimuli. Shaffer believes that normal voluntary control is attained through a process of reinforcement of verbally-stimulated responses so that insight automatically accompanies the adequate verbalization of the person's problems and their interrelationships. Psychotherapy is a learning process in which behavior is controlled by self-stimulating verbal cues.

Clinical experience generally supports this conception of the role of verbalization in learning control of all types. This process moves most quickly when expert direction can be provided in terms of detailed verbal cues by coaches, skilled directors, teachers, physicians and others who are able to give verbal formulas for accomplishing each step of a complicated behavior sequence.

Clinically, it is of the utmost importance to objectively measure and evaluate the verbal cues and other discriminanda which make possible effective self-stimulation. The basic method is to secure an adequate sample of the person's self-stimulating cues or verbalizations in order to evaluate their efficiency. This may be accomplished by obtaining a detailed description of just how the person proceeds to solve a problem with particular attention to the verbatim recording of inner speech or other reportable thought process. Where the subject has not become aware of these inner signaling devices, or where he does not have verbal fluency in describing them, it may be desirable for the observer to outline the problem by structuring the task as follows:

> Most people talk to themselves in solving their problems. For example, I might ask myself what is the nature of the problem and how should I go about it to think out possible solutions. I might say what is the best way to do this? Or, what am I doing wrong? Then after having worked out a plan of action, I might repeat to myself just how to go about accomplishing each step. I might remind myself about different things as I went along. I would like to know how you go about solving problems. Just tell me in your own words what you think about when you are faced with a problem.

Much can be done in teaching a person how to achieve more efficient ways of verbalizing the nature of problems and in developing cues for self-stimulation.

A less comprehensive evaluation can usually be made from casual observation of a person in action, and by collecting evidences of attitudes and methods from casual expressive behavior.

The use of stress situations. Anthropological investigations of training methods in societies which place high value on the development of bravery or fortitude emphasize training of the young in facing stress situations. The American Indians required young boys to engage in warlike games of increasing ferocity until high degrees of control had been obtained. Reports of the training

methods of the Hitler youth movement have stressed techniques for choosing boys capable of leadership and then training them in situations of stress and adversity requiring the ability to withstand unpleasantness and pain, to control emotional expression under stress conditions, and to think rationally in emergency situations. In America, the tradition of sportsmanship in athletics emphasizes emotional control and the attainment of high degrees of skill by rigorous training under restrictive conditions. In all of these situations, the emphasis is on acquiring of control through an organic process of *learning by doing.* In contrast with the tradition of progressive education (and nondirective therapy) which stresses maximum permissiveness in self-expression, advocates of the concept of discipline have emphasized the importance of teaching the person *to do what he does not want to do.*

Implications for education. Intensive training for control need not be repressive even though it has too often been so in the past. Perhaps the difficulty has been that many parents and teachers have expected control to be acquired too rapidly; have failed to understand that to acquire relatively simple controls may require months or years of intensive training. From this viewpoint, perhaps the major objective of education is to provide a gigantic exercise or training period in which the acquisition of control is a goal not secondary even to that of acquiring information. Indeed, it is fortunate if the young person has achieved a reasonable degree of control at age 21, sufficient at least to protect him from gross inefficiency or asocial acts. Each teacher must expect to spend long and monotonous periods in simply exercising the child's developing powers of control which appear to be largely specific to each discrete type of learning situation. Education is in truth progressive when it is able to give intensive training in self-discipline without making the whole process so unpleasant as to destroy the child's innate desire to learn.

Discussion

High achievement in any field of human endeavor usually involves attaining mastery or self-control over behavior patterns of the most tremendous complexity. In some few fields, the necessary aptitudes or talents may be innate or constitutional but most commonly they are achieved only after prodigious training periods in which control is mastered by interminable practice in every detail of the act. To become a musical virtuoso, a champion athlete, a master at contract bridge, or a skilled chef may require an intensive period of training involving most of the person's waking hours for periods ranging up to 10 or 20 years before the highest perfection is achieved. One can hardly underestimate the amount of training which is necessary to produce high accomplishment in any human activity whether it be chess or scientific research.

Analysis of the case histories of persons who have reached stardom in their respective fields of endeavor reveals that such an high level of perfection is rarely achieved through the unaided efforts of the person himself. More usually, the undeveloped prodigy is taken in hand by a gifted teacher who laboriously directs a training process which rigorously drills the person until perfection of performance is attained. This long training period is frequently a difficult process for all concerned. The trainee frequently lacks perspective concerning where he is going and may lack the motivation to carry on by himself. The long periods of monotonous repetition of small details may be boring and unpleasant, so that the trainee will need to be held to the task. In the same manner as the young colt must be broken to the saddle, so must the young human be trained to submit to the difficult tasks necessary in training. In other words, the training of the young even under optimum conditions is a stormy process in which the child is required to submit to many years of rigorous training frequently against his natural inclinations to follow roads of least resistance in the pursuit of pleasure. In the same manner as high-temper steel is forged in the furnace from baser metals,

so is human character and fortitude shaped by the conquest of adversity. High accomplishment is rarely achieved except through the arduous acquisition of self-control and discipline in stressful situations.

In our opinion, some elements in the modern orthopsychiatric and progressive education movements have failed to recognize the role of suppressive or repressive training and therapy in the acquisition of self-control and discipline. Clinical experience suggests that growth principles and uninhibited self-expression cannot be consistently depended upon to produce mentally healthy people when left unsupplemented by regulation and direction. The world is full of potentially gifted persons who have never harnessed their potentialities, or whose potentialities were allowed to be dissipated through self-indulgence. It may be stated as a basic axiom that the immature personality is not always capable of intelligent self-regulation and planning for the future but is prone to indulge in excesses of behavior determined by the impulses of the moment. Indeed, there is usually a tenuous balance between positive and negative factors in growth so that it is desirable to provide wise, firm guidance during child training so as to make certain that positive factors are reinforced and negative factors depreciated. Whether or not the individual wishes to do so, it will be desirable to require him to conform to the most valid concepts at time and place concerning what it is best for him to do. In general, the person may be left unregulated or regimented as long as his natural homeostatic resources lead him in paths of moderation but external control and direction may be indicated if he becomes involved in excesses which threaten his integrity or welfare.

Life must be recognized as a hazardous experience, replete with adversities which the individual must be prepared to overcome. Unfortunately, mankind has not yet discovered any method of preparing youth to face adversity except by exposing youth to adversity in gradually increasing doses until it becomes able to take care of itself under any conditions. There is no substitute for the fortitude which comes only from having learned to be under fire, *i.e.*, to learn to function even under conditions of great stress. It is no accident that the youth who has learned to stand up under competitive athletics later demonstrates the ability to remain integrated in situations of great stress such as war. Children cannot be taught how to face the hazards of life by overprotecting them or attempting to shield them from adversity in any form. The overprotected child is tragically unprepared to face stresses which the average child learns to take in stride.

Summary and Conclusions

It is postulated that defects or disorders in *learning* control may be an etiologic factor in the types of personality disorder which are characterized by disintegration under frustration or stress. Such reactions may be understood as *reactions of immaturity* involving both maturational and learning factors. Anthropological studies indicate that cultural factors are very important in determining the types and amounts of training in control which are required of the young.

The nature of controls has been defined operationally and explained in terms of modern learning theory. Clinical applications of this theory of controls are outlined. Methods of diagnosing disorders of control are discussed with presentation of a tentative outline which may be utilized to evaluate levels of control qualitatively. Based on the hypothesis that control is acquired though intensive training, techniques are outlined for developing control particularly over affective-impulsive life. The implications of this theory for clinical psychology, psychiatry and education are discussed. It is concluded that the measurement of control is an important and essential part of all personality appraisals which should be included in every psychological examination.

BIBLIOGRAPHY

1. Curtis, W. B. and Thorne, F. C. Methods for rapid personality evaluation. *J. clin. Psychol.*, 1945, 1, 66-76.
2. De Forest, I. Significance of self-control as developed during psycho analytic treatment. *J. clin. Psychopathol.*, 1947, 8, 611-22.
3. Ferenczi, S. *Theory and Technique of Psychonanalysis.* New York: Boni & Liveright, 1927.

4. FREUD, S. *Collected Papers.* New York: International Psychoanalytical Press, 1924.
5. FREEMAN, G. L. *The Energetics of Human Behavior.* Ithaca: Cornell University Press, 1948, pp. 266-272.
6. HERZBERG, A. *Active Psychotherapy.* New York: Grune & Stratton, 1945.
7. HUDGINS, C. V. Conditioning and the voluntary control of the pupillary light reflex. *J. gen. Psychol.,* 1933, 8, 351.
8. RANK, O. *Will Therapy.* New York: Knopf, 1945.
9. RICHARDS, T. W. *Modern Clinical Psychology.* New York: McGraw-Hill, 1946, pp. 130-215.
10. SHAFFER, L. F. The problem of psychotherapy. *Amer. Psychologist,* 1947, 2, 459-467.
11. THORNE, F. C. The attitudinal pathoses. *J. clin. Psychol.,* 1949, 5, 1-21.

THE FREE DRAWING TEST AS A PREDICTOR OF NON-IMPROVEMENT IN PSYCHOTHERAPY*

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STATEMENT OF PROBLEM

The Free Drawing Test has justified itself as a valuable, if simple clinical tool. Goodenough[1] used the drawing of a man as a measure of intelligence; Machover[2] published observations on the drawing of the human figure as a projective technique. One of the latter's major points is that free drawings of persons to some extent reveal the subject's expectations and perceptions of significant persons in his environment, including himself.

In this investigation it was felt more specifically that a subject's drawing might indicate the extent of his ability to relate to other persons. Inasmuch as psychotherapy is a process occurring within the context of an interpersonal relationship, a degree of capacity to form such a relationship is a prerequisite. Incidentally, this latter points to the reason we have chosen to predict "non-improvement" rather than "improvement." Many factors other than the patient's personality, such as the skill of the therapist, the particular techniques of the therapy, socio-economic events, will affect the eventual outcome, but none of these will have a chance to come into effective play in the therapy unless and until a minimal relationship between the individuals involved has been established. Therefore this study is pointed at identifying, by means of performance on the Free Drawing Test, those patients who do not improve in therapy.

METHOD

All case records which conformed to the following criteria were selected from the closed file of the VA Mental Hygiene Clinic, Chicago: (a) The patient had psychological tests prior to therapy; (b) The patient had at least five therapy interviews; (c) The diagnosis was psychoneurosis.

The records amounted to eighty, and they consisted of the progress notes recorded by the therapist after each interview. One graduate student interning in clinical psychology rated these cases on a five-point scale from "worse" to "much improved," applying this scale to five areas of functioning: somatic, intrapsychic, social and familial, economic and vocational, and sexual. The 25 least and the 25 most improved cases according to this scale were then judged by an independent rater, a clinical psychologist with ten years experience, who had instructions to dichotomize the cases into groups of improved and unimproved ones.† Agreement was obtained in 92% of the

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